ABSTRACT
OF THE
Gulstonian Lectures,
ON
PHARMACOLOGY AND ITS RELATIONS TO THERAPEUTICS.

Delivered at the Royal College of Physicians, London,

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THE lecturer divided his subject into four sections. 1. The reasons why therapeutics has made such slow progress in the past, as shown by the history of medicine. 2. The methods by which it is at present advancing. 3. Some of the most important results obtained by the use of these methods. 4. The prospects of therapeutics in the future.

In the first lecture Dr. Lauder Brunton sketched the history of medical doctrines and precepts, and traced the rise of medicine as a science, indicating the causes which have retarded the progress of therapeutics. One of the chief obstacles he believes to have been "the habit of mind which induced physicians to act like children at play, and to mistake imagination for reality." This habit led them into "two errors—in the one they attributed disease to occult powers, in the other to disturbances of the body of an entirely imaginary nature."

In the second lecture the methods by which therapeutics is at present advancing were discussed. "In spite of theories, English practice, from the time of Sydenham, has been regulated more by the teaching of experience than by the doctrines of the schools. For this reason English physicians are justly trusted. They may sometimes be behind those of other countries in their theoretical knowledge, but in skilful and successful treatment of their patients they are second to none. So long as we lack a sufficient basis of facts experimentally ascertained in pathology and pharmacology on which to found a rational system of therapeutics, we must be guided by clinical experience, and practise empirically. Only as our knowledge slowly extends will we be able to cast aside empiric rules, and confidently point to the aid of science." In the course of this lecture Dr. Brunton described his investigation of casca bark, which "is used as an ordeal poison along the greater part of the coast line of Western Africa, with the exception of Old Calabar. In different districts it bears the names of 'doom,' 'gidu,' 'sassy,' 'saucy,' 'cassa,' and 'casca.' It is obtained from the Erythrophleum Guinense, which, like the Calabar bean, belongs to the natural order Leguminosæ." After detailing the phenomena resulting from the exhibition of the drugs experimentally in various ways, the lecturer concluded: "In casca, then, we possess a drug which strengthens and slows the heart, contracts the arterioles, and increases the urine. ..... Digitalis has hitherto been our great resort in mitral disease, but I think it probable that in casca we possess a drug more powerful still, at least its effect upon the arterioles appears to be greater than that of digitalis, and it is quite possible that it may succeed in those cases of advanced mitral disease where digitalis fails."

The third lecture deals immediately with the results obtained by the experimental method of study, as follows:—

In my last lecture I described some examples of the method by which medicine is at present advancing, and to-day I purpose to enumerate some of the gains already achieved by the employment of this method. These are fourfold in their character. We are acquiring new remedies. We are being taught how to use our old remedies. We learn what to do. We learn what to avoid. We discover that the action of casca on the heart and vessels indicates it as a useful remedy in defective circulation. At the same time we are cautioned that the drug may disturb digestion, and cause an unpleasant surprise if carelessly given.

If casca is to be beneficial in one form of heart disease, why not in another? If it is to do good in mitral, why not in aortic incompetence?

To answer these questions, let us consider the pathology of the disease. During the normal condition of the cardiac diastole, the left ventricle usually receives only the blood which pours into it from the auricle. When the aortic valves are incompetent, the ventricle receives, in addition, the blood which flows back from the aorta. It thus becomes filled to a much greater extent than usual. The quantity of blood, therefore, which is propelled by it into the arterial system by each systole is very large, so that the arteries become tense. During the diastole the blood which ought to be retained in the aorta by the sigmoid valves is allowed to flow backwards into the ventricle, so that the arterial system may be compared to a vessel open at both ends—viz., at the capillaries and at the heart, instead of at one end only, as in health. It thus becomes much emptier during the heart's pause than it should be. The condition, indeed, is comparable to that of a man from whose artery a jet is allowed to flow between every pulsation, only that the blood flows back into the heart instead of out of the body. The variations in tension of the arteries in their full and empty condition are thus very much greater than in the normal condition. We get the full and bounding pulse first recognised by Corrigan as characteristic of the valvular lesion we are now considering. We all know how difficult it is to break a cord by steady strain, and how easy by a sudden jerk. The arteries in aortic regurgitation are subjected to a greater strain than usual by the great variations in tension which occur. Supposing, then, that we were to increase the force of the heart by such drugs as digitalis and casca, we would increase the strain upon the arteries. But besides the increase in the force of the heart, these remedies would make it pulsate more slowly, and more time would thus be allowed for the blood to flow into it both from the auricles and from the aorta. The ventricle would thus become fuller than usual, a greater volume of blood would be poured into the arteries at each beat, and the tension would be increased by the size of the wave as well as by the rapidity of its propulsion. But the increased length of the diastole would also allow the arterial system to become emptier, both from the onward current through the capillaries and the backward flow into the heart. The variations in tension would thus be rendered still greater. At each pulsation of the heart the tension would become exceedingly great, but at each pause exceedingly low—so low, indeed, that the current through the capillary system might cease entirely, especially in those parts of the body (such as the brain) where it is counteracted to the greatest extent by the force of gravity. Syncope would, therefore, be likely to ensue, and might pass into death if the cardiac diastole were much prolonged. We see, therefore, that the use of digitalis or casca in such circumstances would be highly injurious. But if the ventricle, subjected to the constant strain by the blood flowing into it under pressure from the aorta, even during its period of rest, should begin at last to yield and dilate, so that the bicuspid valves should no longer be competent to close the enlarged mitral orifice, the regurgitating blood will obstruct the circulation through the pulmonary vessels, the strain will be transmitted back to the right ventricle, and we shall have all those symptoms of obstructed respiration, œdema, &c., which we have already considered. The danger now is not of death by syncope, but death by suffocation. The condition now approximates that which we have already considered under the head of mitral disease, when casca or digitalis proves most beneficial.

The recognition of digitalis as a cardiac stimulant is one of the great advantages which we have derived from experiment; for although clinical experience seemed to show its utility in cases of cardiac debility, yet until its power to strengthen the cardiac pulsations was actually shown by experiment, many practitioners were afraid to employ it, even in those cases in which it would have been most serviceable.

But it is not only in the treatment of organic diseases of the heart that we have gained much from scientific pathology and pharmacology. One of the greatest obstacles to

the successful employment of any general empiric rule, such as *contraria contrariis curantur*, or *similia similibus curantur*, is that symptoms do not always arise from disease of the organ apparently most closely related to the disordered function. Thus we have seen that although the laboured respiration may be the most urgent symptom in mitral disease, the heart, and not the lungs, is at fault. In the same way we sometimes may have the heart palpitating, and the pulse irregular or intermittent, when the disorder is really in the stomach. But physical diagnosis enables us to ascertain the absence of organic lesion, and experimental pathology has shown us the mechanism by which gastric disturbance produces cardiac irregularity. The irritation from the stomach is transmitted up the afferent nerves to the medulla oblongata, and down the vagus to the heart, interfering with its pulsations. It is evident, then, that instead of meddling with the heart, the proper treatment is to remove the irritation of the stomach; but if we cannot immediately do this, we may prevent its effect upon the heart in two ways. As the action is reflex, we may lessen or destroy it by diminishing the activity of the centre through which it occurs. Since it is produced through the vagi, we may stop it by destroying their power. So far as I know, no experiments have been made on the influence of drugs over this particular form of reflex, and we must therefore use one which we know to lessen reflex action generally, such as bromide of potassium, opium, or chloral, without being able at once to select the best. But we do know that if the long intermissions should threaten danger, we can avert it by a free use of atropia; for this alkaloid completely paralyses the ends of the vagus in the heart, and no amount of stimulation to the nerve, either direct or reflex, can then stop the pulse.

Nor is this the only action of the drug. It has another of considerable importance, for it paralyses the sensory nerves of the heart. Increased pressure of blood in the arteries has a double action on the circulation. It stimulates the heart to quicker and stronger pulsation, but it also stimulates the medulla, and thus through the vagus tends to slow and weaken the heart. In health, the vagus has the upper hand, and restrains the heart's action whenever the blood-pressure rises; but should the heart become irritable from any cause, such as strain, the conditions may be reversed, and the heart, breaking loose from its usual bonds, responds to the stimulus by palpitation. During violent muscular exertion the blood-pressure rises enormously, and it is in persons who are subjected to such strain by their daily avocations that the so-called irritable heart is found. In animals with the vagi divided, rise of pressure excites the heart, because the usual restraining influence is destroyed; but in such animals the blood-pressure may be raised to three times its usual amount without any effect on the pulse, if a dose of atropia or belladonna has been given somewhat larger than suffices to dilate the pupil.[1] Belladonna is therefore theoretically indicated in irritable heart, and I have been informed that at Netley Hospital it has been practically found very efficacious. I have myself prescribed it with great advantage in such cases, but, while successful when given shortly after the appearance of the symptoms, it failed to benefit at a more advanced stage of the disease.

Besides the mechanism which we have already considered in the vagus, there seems to be another nervous apparatus for regulating the blood-pressure. This acts, not upon the heart, which forces the blood into the arteries, but upon the arterioles or capillaries, through which it flows out of the arteries into the veins, which form a great reservoir, large enough, when dilated completely, to hold all the blood in the body, as indeed they do after death. From the heart sensory fibres proceed to the vaso-motor centre, and when they are irritated they cause the arterioles to dilate, so that the blood flows freely into the veins, and the pressure sinks in the arteries. Increased pressure in the heart is probably the normal stimulus to these fibres. As regularity of motion in a steam-engine is obtained by governing balls, so regularity of the blood-stream appears to be obtained by the nerves which act upon the heart and vessels. When the regulating mechanism is disturbed, either in the steam-engine or circulation, danger is the result. This is the case in angina pectoris. Some years ago I was placed in exceptionally favourable circumstances for studying this disease. I was able to watch a patient at every hour of the day and night, and to observe every phase of the attack. By the aid of Marey's sphygmograph I discovered that during the paroxysm the blood-pressure rose and the pulse became quick. I might have imagined that the rise in pressure was due to the quickness of the heart's pulsations, but the experiments of Marey and Chauveau enabled me to say, from the form of the tracing, what I could not have discovered by the finger, that the arterioles were excessively contracted. As the pressure rose severe pain came on in the heart, and when the pressure fell the pain disappeared. It was therefore natural to look upon the pressure as the cause of the pain, and my opinion was confirmed by the effects of bleeding; for this lowers the pressure, and each bleeding prevented an attack. The pathology of the disease thus seemed clear, and the next question was how to treat it. The remedy wanted was one which would dilate the vessels, and this the researches of Richardson and Gamgee supplied. Nitrite of amyl they had shown to possess the very power which I desired, and thus their experiments on the pharmacology of the drug and my observations on the pathology of the disease, united, led to successful therapeutics. I administered the remedy, and the pain disappeared. In the hands of others it has usually produced similar results, but sometimes it has failed. The failure has been used as an argument to prove that angina does not always depend upon excessive blood-pressure. This may be the case, but the proof is insufficient; for in some patients the nitrite ceases to act after it has been kept a few days, while the newly made drug always affords relief. Had such a case been treated with old nitrite only, it would have been recorded as one of failure. Whether the loss of activity is due to conversion of the nitrite into nitrate, or to decomposition or evaporation of some nitrous compound present in the newly formed nitrite, but still more active and unstable than it, must be determined by future research.

While angina seems to depend on spasmodic contraction of the vessels generally, local spasm may cause pain or disturbance of function. Du Bois Reymond's observations of the contracted condition of the arteries in migraine led me to use the nitrite in headache, and sometimes with success. On the hypothesis that epilepsy depends on spasm of the central vessels, I administered it during fits of epilepsy, but without result. By giving it before the fit comes on, Dr. Crichton Browne has been more fortunate, and has succeeded in averting the paroxysm. But in this disease the remedy *par excellence* is bromide of potassium, for the extended use of which we are greatly indebted to the late Dr. Begbie. How it acts in epilepsy we do not yet know, but experiment has shown that it lessens reflex action generally, and we thus have a general rule to guide us in its use. It is not an astringent in the usual sense of the term, yet it may sometimes check diarrhœa. In a patient where the looseness of the bowels seemed to depend upon reflex irritation from the uterus, the general rule I have just mentioned led Dr. Ferrier to use it, and his success was complete.

Various researches have shown that the substance of the nerve-centres may be affected by drugs independently of the circulation, but the experiments of Durham have shown the connexion between sleep and anæmia of the brain. The difficulty which the congested condition of this organ, after poisoning by opium, was supposed to present to Durham's theory, has been explained by the experiments of Hammond. He finds that in the sleep produced by a small dose of opium the brain is anæmic, but as the sleep passes into coma after a large dose, the anæmia gives place to venous congestion, slow circulation to stagnation. Knowing, then, the connexion between anæmia and sleep, active circulation and mental activity, we are able to choose our remedies accordingly. When the patient constantly falls asleep while standing or sitting, and cannot sleep when lying down, we know that the vessels are probably flaccid and allow the blood to gravitate to the lowest point, away from the head in the upright, and to it in the recumbent posture. In such cases we know that digitalis will probably be useful by giving contractile power to the vessels, and chloral injurious by weakening them. But when the tight arteries and powerful heart seem to be driving the blood rapidly through the brain, then we have recourse to chloral, for its weaken-

[1] Schiff: La Nazione, 1873, No. 235.

ing action on heart and vessels will now aid its action on the nervous tissue.

Nor is it only on the nerve-centres that we are able to act. Bernard showed that we can influence peripheral nerves also by our drugs. It is impossible to look at the jerking limbs and irregular movements of chorea without wishing that we could load every muscle with lead, and still its useless and disturbing movements. Sleep will do this, and opium will produce sleep, but we cannot keep the patient constantly in a state of insensibility. We wish to leave their activity to the mental powers, and only to quiet the muscles. This we might do by curare, but we have another remedy which seems still more suitable. For conia acts on the motor nerves in the same way as curare, and methyl conia lessens the functions of the spinal cord. Ordinary hemlock contains both, and thus the succus conii, by deadening the motor nerves and enfeebling the cord, renders movement more difficult and wearisome—the very result which we desire to produce. We are thus able to ameliorate the symptoms, even though we may not touch the real source of the disease.

Let us now pass on to the respiration. The object of respiration is to give oxygen to the tissues, but these are far removed from the outer air, and therefore must have the oxygen brought to them. This is done by the blood, and internal respiration consists in the interchange of gases between it and the tissues. If this goes on quickly a necessity arises for increased contact of the blood with the outer air, so that it may give off its carbonic acid and take in fresh oxygen. The necessary correspondence between the internal respiration in the tissues and external respiration in the lungs is effected by the respiratory centre in the medulla oblongata. The activity of this centre increases or diminishes with the venosity of the blood which circulates through it, although it may be reflexly affected by various nerves. When the blood is exceedingly venous the respiratory movements become great and convulsive; when it is excessively arterialised they cease altogether. If the blood is deficient in hæmoglobin, as in anæmia, it cannot carry a sufficient quantity of oxygen to the medulla, and thus such patients pant and blow after slight exertions. The administration of iron has been shown to render the blood-corpuscles more numerous, to increase the hæmoglobin they contain, and augment the oxygen-carrying power of the blood. Iron is consequently the remedy indicated in anæmic dyspnœa, and clinical experience shows how beneficial is the result of its administration. We have already seen how cardiac disease may prevent the blood from sufficiently getting to the air, but obstructions to the respiratory passages may also prevent air from getting to the blood. The former condition requires remedies which act upon the heart, the latter those which will affect the lungs. In bronchitis the air-tubes are clogged with mucus, which interferes with the passage of air through them, and by its constant irritation causes troublesome cough. Cough being a reflex act, we can diminish it, like other acts of the same sort, by drugs which, like opium, will act on the reflex centres. But in old and debilitated persons, this centre, though irritable, lacks power, and the expulsive respiratory efforts require increase rather than diminution. Clinical experience has shown the value of carbonate of ammonia in such cases, but it is pharmacological experiment which informs us that ammonia stimulates the respiratory centre, and thus gives us a reason for our treatment. But atropia combines two qualities likely to make it useful in the cough of debility. It stimulates the respiratory centre, but at the same time it lessens the irritability of the sensory nerves of the lung, and will thus, while increasing respiratory efforts, diminish the sensibility of the lung to irritation. Hyoscyamus has an action almost the same as that of atropia, and often proves a valuable remedy in chronic bronchitis. But here the question of dose comes in, and although experiment assures us that certain drugs have certain actions, we may not get the result we desire when we administer them in disease, because we give too small doses, either from ignorance, timidity, or from the action of the drug upon other organs of the body preventing its being pushed to a sufficient extent. Regarding the action of drugs upon the bronchial secretion, we have no experimental knowledge. We know that something to eat, and a drink of warm fluid before rising, generally lessen the troublesome morning cough of chronic bronchitis better than any expectorant; but still experience shows that tartar emetic, ipecacuanha, and iodide of potassium will also diminish the tenacity of mucus, and aid expectoration, while balsams will lessen the profuse secretion in bronchorrhœa. But how these drugs act on the bronchial glands we do not know, and it is a comfort to turn from our unsatisfactory acquaintance with the action of expectorants to the action of remedies on digestion. For here we are acquainted with the chemical processes which go on, and the agents which originate them. We have a good knowledge of the mechanism of secretion in the various glands of the alimentary canal, and in the case of the stomach we have the great satisfaction of being able to see what our drugs are doing inside the body. It is cheering, too, for the physician who has been giving cough-mixtures without success until he has nearly lost all confidence in medicine, to have his faith re-established by a sight of the wonderful relief given by rhubarb and soda in flatulent dyspepsia.

Hope rises in our breasts when we compare the wild fancies of our predecessors with our own certain knowledge, and we look forward to a bright future for medicine. Mayow, for example, thought that digestion was performed by the vital spirits which came down from the head to the stomach, did their work, and then returned to the head again. Thus he explained the drowsiness which comes on after eating, and the digestive disturbances which deep thought and anxiety occasion. For the vital spirits could not be in two places at once: so when they were digesting the food in the stomach they left the head, and so caused drowsiness; when they were busily engaged with cogitations or passions in the head they neglected their work in the stomach, and the food remained undigested. It would be impossible to bottle up such intangible beings as Mayow's vital spirits and make them do their work in a water-bath or oven, but we can do this with ptyalin or pepsin; it would be difficult to localise the paths by which the spirits ran backwards and forwards, but we know the vessels by which the blood flows to the stomach and brain, and we are beginning to learn the exact nerves which cause it to flow to the one rather than to the other.

Experiment has taught us that the food begins to be digested in the mouth, and its starchy constituents are even there partially converted into sugar. In the stomach it meets with the gastric juice, which converts the albuminous matters partly into syntonin and partly into peptones. In the duodenum it is mixed with the bile, which emulsionises the fats, and then with the pancreatic juice, which combines the properties of all the three others, digesting the starch, albumen, and fats. Lastly, the intestinal juice probably finishes the solution of albumen and starch, as well as converting cane into grape sugar. In each secretion we find its ferment: ptyalin in the saliva, pepsin in the gastric, and trypsin in the pancreatic juice. But these ferments do not exist ready formed in the glands. They are stored up in the form of a mother substance, or zymogen, in the secreting cells, and when these are called into activity by the nerves of the gland, the zymogen yields up the free ferment ready for its work. But something more is required than the nervous impulse, or, as Mayow would probably have called it, the vital spirit. Unless the glands have a free supply of blood to yield them oxygen and nutriment, they cannot secrete much, however strong the nervous stimulus may be. The secreting nerves of a gland are, therefore, accompanied by other filaments, which cause the vessels of the gland to dilate, so that a copious stream of blood pours through them, making the veins pulsate, and jet like arteries. But though these nerves may often run together, yet their functions are quite distinct. Stimulation of the secreting nerves alone will only cause the gland to yield a few drops of juice, and then cease, if the vaso-dilator nerves do not quicken the blood-stream at the same time; and no action of the vaso-dilator nerves, no rapidity of the circulation, however great, will produce a single drop unless the secreting nerves act also. Usually they are both excited simultaneously, and in the following manner:—A stimulus applied to the mucous membrane lining a part of the alimentary canal, mouth, stomach, duodenum, or ileum, is conveyed by afferent nerves to a nervous centre; thence the stimulus is reflected down efferent nerves, both to the cells and vessels of the glands connected with the part to which it was applied, and the secretion is poured out. And each gland seems to have its own favourite

stimulus: for the salivary gland, acids and sapid substances; for the stomach, alkalies; for the liver, acids, applied to its duct; for the pancreas, food in the stomach and duodenum; for the intestine, the presence of food. When savoury substances or acids are taken into the mouth, the stimulus they apply is conveyed up the fifth nerve to the encephalon, and is thence reflected down the seventh to the salivary glands. When the secretion is insufficient it can be increased by applying a stronger stimulus to the mouth, and it is in this way that pellitory and such other sialagogues act; but sometimes there may be a strong and permanent stimulus in the mouth, such as the loose teeth and sore gums, produced by the action of mercury, or a stimulus in the stomach such as acidity or gas, which causes salivation excessive in quantity, and not merely useless, but annoying to the patient. This may be checked by opium, which acts on the nerve-centre, lessening its irritability, so that the strong stimulus only receives the same response as a weak one under normal conditions, and the excessive flow is arrested. But supposing the opium fails, or cannot be given in sufficient doses to produce the desired result without affecting other organs in an undesirable manner, is there any other drug which we can use? It is not very long since we would have been obliged to reply in the negative, but pharmacological research, besides explaining the *modus operandi* of opium, has given us another remedy more powerful still. This is atropia, which Heidenhain[2] found to paralyse the ends of the secreting nerves in the submaxillary gland, so that no irritation would excite the slightest flow of saliva. At the same time it leaves the vascular nerves unaffected, and on the application of the stimulus, the vessels dilate as usual. The paralysis may be removed by Calabar bean, and secretion again will occur. The bean alone has a curious effect, for it excites the secreting nerves, but at the same time causes contraction of the vessels. The gland, therefore, begins to secrete, but soon stops from want of blood. The profuse flow of saliva occasioned by smoking is known to everyone, and examination of the action of nicotine shows that this is just what we might expect, for the drug has a double action on the gland, and does not merely stimulate the sensory nerves of the mouth as pellitory would do—it stimulates the ends of the secreting nerves within the gland itself. In larger doses it paralyses these nerves and arrests the secretion, but as the poison is quickly excreted, the stoppage only continues for a short time. Thus we can understand how moderate smoking may increase the flow of saliva, and excessive indulgence in it may cause temporary dryness of the mouth, especially if the tobacco be strong.

Weak alkaline solutions, such as saliva, are amongst the most powerful stimulants to the gastric secretion, while acids diminish it. Thus vinegar will lessen the quantity of juice, and so will interfere with digestion. If constantly employed for some time it will not only reduce *embonpoint*, but lead to fatal emaciation. Increase in the quantity of saliva will act as an increased stimulus to gastric secretion, and where digestion is slow well cooked and sapid food will aid the process by making the mouth water. But the sapid food must not be bolted, it must be turned slowly about in the mouth and well masticated, so that time may be allowed for the stimulus given by the agreeable taste and prolonged mastication to have full effect. The effect of dilute alkalies upon the stomach is a good example of the errors into which one may be led by a purely chemical view of digestion. Mialhe, regarding the stomach merely as a test tube, recommended that when a person was taking metallic iron as a medicine, he should abstain from drinking lest he should dilute the gastric juice, and should take especial care to avoid alkalies, which would neutralise its normal acidity, and prevent its dissolving the iron. The same reasoning may be, and has been, applied to the ordinary processes of digestion; for pepsin will not act except in acid solutions, and one might imagine that fluids at meal times, and especially alkalies, such as soda water, would prove very injurious. But Bernard's experiments show that although a weak alkali will saturate a little of the acid contained in the gastric juice, yet it will so stimulate secretion that very quickly it will become completely neutralised, leaving a large excess of acid fluid ready to digest any albuminous food that may be presented to it.

[2] Heidenhain: Pflüger's Archiv, v., p. 40.

Thus it is that weak alkalies, such as bicarbonate of soda, given before meals, are so useful in the treatment of atonic dyspepsia. When the food is taken into the stomach, the organ responds but slowly to the stimulus; too little gastric juice is secreted, the food lies heavy at the epigastrium, and, decomposition of an abnormal kind occurring, gas is formed, and eructations annoy the patient. But when a small quantity of alkali is given shortly before the meal, it stimulates secretion, a quantity of gastric juice is poured forth before the food is actually swallowed, and is ready to attack it so soon as it reaches the stomach; the food is quickly digested, and the unpleasant symptoms disappear. If given with or immediately after a meal, the alkali may have a similar action, but will not be so effectual, for the stomach will already contain some gastric juice secreted under the stimulus of the food; this will immediately neutralise part of the alkali, so that little or none may remain to stimulate the stomach. It is possible that a pipe of tobacco smoked after dinner may act by stimulating a flow of saliva, and thus acting upon the stomach; but it is not impossible that it may have an action upon the gastric follicles similar to that which it exerts upon the salivary glands; that it has some action upon the stomach is rendered probable by its power to allay hunger when no food can be obtained. The question, What is the cause of hunger? is one which cannot be regarded as definitely answered. It is no doubt immediately dependent on some condition of the nervous centres in the cranium, and may be present when the blood circulating in these centres is impoverished, although the stomach be full, as in children suffering from tabes mesenterica. Yet the stomach is the part in which it is apparently felt, and it may be produced by local conditions of the stomach which do not affect the nutrition; for the stomach has little power to discriminate sensations, and the bitterness which quassia or quinine causes in the mouth, and the heat caused by mustard or cayenne, are both felt by the stomach as appetite. The slight irritation caused by small doses of tartar emetic or arsenic has a similar effect, and on this account they are said to act as gastric tonics. The usual appetite felt by the healthy stomach after a short period of abstinence seems to depend upon slight irritation of the nerves in the stomach, caused by some condition either of the gastric follicles or bloodvessels. Increased irritation causes violent appetite, and such an appetite may be induced by the stimulus of a bitter taken before meals, or an irritable condition of the stomach itself. This craving appetite may be observed in some forms of dyspepsia, and not infrequently precedes a so-called bilious attack with vomiting. When the irritation is increased still further, the appetite, as shown by Bernard's experiments and by Beaumont's[3] observations, disappears, and is succeeded by nausea or even by vomiting. From these observations we learn how to treat anorexia due to different conditions of the stomach. When the stomach is languid, and lacks its normal sensibility, there will be want of appetite, because the condition of its walls does not afford sufficient stimulus to its nerves. But when this is supplemented by the additional stimulus of food appetite is felt. Thus such persons have no appetite before a repast, but after they begin to eat acquire a relish for their food, and make an excellent meal. When the appetite is due, on the other hand, to excessive irritability of the stomach, the persons feel beforehand as if they could eat a great deal, but as soon as they have swallowed a morsel or two the additional stimulus of the food acts like the excessive friction of the rod in Bernard's experiment—appetite disappears, and nausea, and even vomiting, succeed. The treatment is evident from the pathology. If the anorexia is due to deficient sensibility, we must give an extra stimulus, such as bitters before meals, or a little more spice and seasoning with the food. Many a time, however, have I been disappointed with the result when I have ordered quinine or quassia before meals as an appetiser, without considering the pathology of the particular case I was treating, it being one, not of deficient sensibility, but of excessive irritation. The proper treatment was to soothe the mucous membrane instead of stimulating, and on adopting this, and giving bismuth and magnesia instead of bitters, the appetite returned. Sometimes one meets with persons who complain that after a full meal they feel empty, as if they had not had anything to eat. Normally hunger is appeased by eating,

[3] Vide Beaumont's Physiology of Digestion, second edition (Burlington, 1847), p. 251.

probably because the condition of the gastric walls, whatever it may be, which causes appetite, is relieved by secretion; but in the cases I have just mentioned the food does not cause its ordinary effect. The reason which suggests itself to explain this is that the stomach does not react so readily as it ought. We have no experiments, so far as I know, to show what drug will affect the reflex action of the gastric nerves; but we know that strychnia increases other reflex actions, and why not this? Strychnia appeared theoretically to be the most likely remedy for such cases, and on trying it experimentally I found it successful. Theoretically, also, it ought to be useful in those cases of atonic dyspepsia in which we give alkaline solutions, and its utility in such cases is practically well known. But supposing the stomach to be too debilitated, either from old age or from exhaustion by disease, to respond to such stimuli as bitters, alkalies, or alcohol, even when aided by strychnia, what is to be done? The organ is then a passive vessel, and as such we must treat it. It possesses a temperature of 99° Fahr., and we know that under such circumstances weak hydrochloric acid with pepsin will digest meat actively when mixed with it in a glass vessel. By introducing pepsin and acid into the stomach, we will supply the gastric juice which it cannot secrete, and the products of digestion, by strengthening the body, will gradually enable the stomach to do its own work and dispense with extrinsic aid. Bernard's experiment shows us that great irritation of the stomach will cause vomiting, and we know from other researches that it is because the irritation is transmitted by sensory nerves, and especially by the vagus up to a centre[4] which is probably situated in the medulla oblongata, whence it is reflected to the muscles of the abdominal walls. It is by irritation of the nerves in the stomach that vomiting is usually occasioned, but it may also be produced by irritation of other nerves, such as those of the intestine,[5] or ovaries.[6] It is a reflex act, and is to be arrested either by removing the irritant or diminishing the sensibility of the nerve-centre through which it acts. If the irritant be undigested food, or acrid fluids in the stomach, a little mustard-and-water will remove it; if it be an inflamed condition of the stomach itself we must use bismuth and hydrocyanic acid to soothe it, and deaden the sensibility of the nerves within it; but if it is an irritant which cannot be removed, like a calculus in the gall-duct, or a fœtus in the uterus, we must employ opium or bromide of potassium to act on the nervous centre within the cranium, and prevent it from transmitting any reflex impulses.

In the intestine we can no longer watch so readily as in the stomach what our drugs are doing, but still experiments are teaching us something about their action there. It has been shown that acids applied to the mouth of the bile-duct stimulate the discharge of bile from the gall-bladder, so that the acid chyme from the stomach causes a flow of bile as it passes along the duodenum; but we do not yet know whether the utility of nitro-hydrochloric acid in bilious disorders is due in any measure to its increasing the stimulus afforded by the chyme. Rutherford has shown that podophyllin, rhubarb, aloes, and colchicum increase the secretion of bile; but he, as well as the Edinburgh Committee, of which he was a member, found that calomel does not. The benefit which follows a dose of calomel or blue pill in biliousness is so marked that the discrepancy between clinical observation and the results of experiment led many to believe that the latter was worthless and misleading. But facts never contradict one another, although they may run counter to our opinions, and the apparent contradiction in this case may be explained by the farther experiments of Lussana, Schiff, and Heidenhain. These physiologists have found that the liver does not only form new bile, it again secretes old bile which has been absorbed from the intestine. Thus all purgatives which sweep out old bile and food from the intestine, and thus prevent its absorption, lessen the quantity circulating in the blood, whether they increase the activity of the liver or not. The effect of any purgative to clear away bile in this manner will depend on the part of the intestine on which it acts. If it hurries on the contents of the duodenum before they have time to be absorbed it will clear away the bile, but if it only acts on the large intestine it will have comparatively little effect. We still want experiment on the part of the intestine affected by different purgatives, but it is probable that it is to an action on the duodenum that calomel owes the cholagogue properties which aloes wants.

The digestion of food in the intestinal canal is, we know, carried on by ferments, which decompose and prepare it for absorption. It would appear that each ferment must do its own work, but must not overdo it. For there seems to be a provision for stopping the action of each after it has acted for a while. Ptyalin will not act in an acid fluid, and the gastric juice lessens, if it does not destroy, its activity. Pepsin is precipitated by bile, and is rendered inert by the pancreatic juice, so that its digestive power is destroyed when the food reaches the duodenum. It has not yet been ascertained whether the action of the pancreatic juice is altered by the intestinal juice, but it will not act except in an alkaline fluid, and thus if the chyme be very acid pancreatic digestion will be retarded. The various processes of digestion depend upon one another, and if one be disturbed the whole will suffer more or less with it. Hence the satisfaction with which we hail such experiments as those of Bernard and Rutherford on the action of our remedies, and the interest with which we look for further information regarding the digestive process to Brücke and Kühne, who have already taught us so much regarding it. But it is not in the intestine only that ferments, or, as they are better called, enzymes, play a part. After the food has been absorbed, and actually forms a part of the liver in the form of glycogen, it is still subject to their influence, and they convert it partly into sugar. Here, too, our drugs seem to influence these enzymes, and bicarbonate of soda will lessen their activity and retard the formation of sugar.

Some ferments seem to possess the power of building up compounds instead of breaking them down, and it appears to be a ferment which causes fibrinogen and fibrinoplastin to unite to form fibrin, while pepsin would decompose fibrin into other substances. Facts all seem to point to ferments or enzymes as the agents by which the tissues are built up and again pulled down in that constant change which continues during life, and the action of drugs upon these enzymes is becoming one of the most interesting questions in pharmacology. Their action can be increased or diminished by the action of alkaloids, such as morphia, and veratria, and by various salts, such as nitrates, sulphates, and chlorides; but the results differ with the dose as well as with the ferment, and the salt used. The same salt in different quantities may at one time quicken and at another retard the action of the ferment. A muscle cut out of the body becomes acid through the action of a ferment it contains; the same muscle in the body becomes acid in a similar way when it contracts. The processes of fermentation and contraction are thus seen to be closely connected, and the question naturally arises, Does the nerve directly act on the muscular substance, or does it act on it through a ferment which it liberates from zymogen in the muscle in much the same way as it does in the cells of a gland? Is it possible, too, for the nerves to liberate this ferment and decompose the muscles without causing them to contract? These questions are of great practical interest, because one product of muscular decomposition is lactic acid, and this acid is generally regarded as an important agent in the production of rheumatic fever, that disease which so frequently leaves behind it the organic diseases of the heart the treatment of which we have already considered. It is possible that rheumatic fever is not caused by acid in the blood and secretions, but that the acid and the disease are consequences of one common cause, which may have its seat in the nervous system. However this may be, can we arrest the decomposition in the muscles? Can we stop the formation of acid by any drug? It would appear that, to some extent, we can, for salicylic acid, or its soda salt, not only reduces the temperature in rheumatic fever, but lessens the urea, showing that lessened decomposition of albuminous tissues is taking place. This useful drug we owe entirely to pharmacological research, and although it is not all we desire, yet the beneficial power it does possess encourages us to hope that we will ere long discover some other remedy which shall satisfy our wants.

We now know that decomposition of the tissues composing the body, whether it be effected by the agency of ferments or not, goes on independently of oxidation, and

[4] Grainuzzi: Centralblatt, f. d. Med. Wiss, 1865, pp. 1 and 129.
[5] Schiff: Moleschott's Untersuchungen, Band x., p. 390.
[6] Cyon: Pflüger's Archiv, Band viii., p. 351.

that it may be increased while oxidation is diminished. According to Voit, albuminous substances such as those which compose the muscles, liver, and kidneys, do not undergo combustion by direct union with the oxygen supplied to them by the blood, but split up so as to yield urea and fat. The fat should usually undergo further combustion into carbonic acid and water, but if the supply of oxygen be lessened or the decomposition be quickened, combustion becomes insufficient and the fat accumulates in the tissues as fatty infiltration and fatty degeneration. Thus it is that when a limb is disused and the supply of arterial blood to it consequently lessened, fatty degeneration of the muscles takes place. When the coronary arteries can no longer meet the increased calls of a hypertrophied heart for arterial blood, or when they become abnormally contracted, fatty degeneration of the cardiac walls sets in. When the power of the blood to convey oxygen is lessened by diminution in its red corpuscles, the consequent want of oxidation leads to an accumulation of fat, frequently noticed in anæmia, and a tendency to obesity frequently appears after severe hæmorrhage.

The pathology of fatty degeneration indicates its treatment. The supply of arterial blood to the organ must be increased if possible, and its power to carry oxygen is to be augmented by the use of iron, so as to favour combustion. But at the same time we must try to restrain the decomposition of the tissues within proper limits. Alkalies have the power to check decomposition of one sort, as in diabetes, but we do not yet know their action upon other changes in the tissues, nor are we able to say that their utility in obesity is due to a power to diminish tissue metamorphosis. But there is one way of influencing tissue change which I must not forget. By simply keeping an animal in a hot chamber for a little while, the tissues decompose more rapidly, and the evidence of their waste is to be found in the urine as increased urea. Quick decomposition is followed by increased combustion, and the temperature of the body rises. Now begins a vicious circle, for the higher temperature itself quickens tissue change, and the fire supplies itself with fuel. The heat, too, stimulates the cardiac ganglia, quickens the heart, dilates the vessels, and accelerates the circulation. Acting on the respiratory centre, it quickens the respiration and increases the supply of oxygen to the body, and thus fans the flame. But quick as the respiration may be, rapid as is the circulation of arterial blood, it is, as Wickham Legg has shown, insufficient in many instances to keep pace with the decomposition of the albuminous tissues; the products of waste accumulate, and we find them in the fatty heart of fever patients and in the livers of Strasburg geese.

Now we clearly see that whatever may have led to increased decomporition and combustion in the first instance, the high temperature itself is a cause of mischief, and must be reduced. We no longer regard it as a conflict of vital spirits with which we cannot intermeddle, nor as an angry struggle of the vital powers with some foe from without, to be encouraged by keeping up a roasting fire in the sick-room, carefully closing every cranny through which fresh air might enter, swathing the patient in folds of flannel, and giving him nothing but warm drink, in spite of his earnest entreaties for a drop of cold water to cool his parched tongue. Instead of this, we regard it as a chemical process going on very quickly, and we secure cool, pure air by careful ventilation, we refresh the patient with cool washes to his fevered skin and cool drinks to quench his raging thirst. We endeavour to lessen the inward fire which is consuming him by quinine, eucalyptus, or salicylic acid, and to slow his feverish pulse by aconite. But when these means fail, and the temperature, persistently rising, will assuredly cause death, we know that we can bring it down by the free use of cold water. This is no new remedy, for by its use Musa saved the life of Augustus. But it is not one to be ignorantly or rashly used, for while it cured the Emperor it killed his nephew. Even now, in spite of the numerous instances in which life has been undoubtedly preserved by it, many scruple to use it, on account of the dangers which they apprehend from it. Experimental pathology and pharmacology have not given us the remedy, but they have taught us how to use it what are its dangers, and how they are to be avoided. They are death from failure of the heart, and death from failure of the respiration. The researches of Panum, Cyon, and others, have shown us that the heart is stimulated to increased action by warmth, but that a sudden fall in the temperature to which it is exposed may act upon its inhibitory ganglia, and suddenly arrest its pulsation. The respiratory centre also is stimulated by warmth to increased action. But while a high temperature quickens the heart and makes it beat more powerfully, it also exhausts it more rapidly. Supposing, then, that both the heart and the respiratory centre should be weakened by continuance of fever, we can readily see that the withdrawal of the stimulus supplied to them at the high temperature may cause them to act so feebly as to endanger life, as well as that a sudden fall in the temperature may cause instant death by stopping the heart through its inhibitory ganglia. The knowledge of the dangers teaches us how to avoid them, and the lessons of experiment coincide with those of clinical observation. The temperature in such cases must not be brought down too quickly, nor too low, and stimulants must be administered to prevent the action of the heart and respiratory centre from flagging.

While experimental pathology and pharmacology have done so much for us already, will they not do more? They have taught us how to use remedies, such as cold affusion, which were known before; and they have put new ones, like salicylic acid, into our hands. But collapse still sometimes occurs after a cold bath, and salicylic acid does not always prevent the temperature from rising. Will this always be so? I think we may confidently answer, No. We shall yet discover remedies to prevent the collapse and to keep the temperature within its proper limits. Every day is enriching medical science with some new discovery; diseases are being traced more precisely to their origin, and the action of remedies is more exactly defined and localised. Order is beginning to appear amongst the crowd of new acquisitions to our knowledge, and isolated facts begin to range themselves under general laws. Pharmacology is allying itself to chemistry, and the rigid rules of the latter are beginning to extend to the former. We no longer attribute the power of drugs to an inherent energy, and say, with Molière, that opium causes sleep because it possesses a *vis dormitiva*. We are beginning to look upon the sleep as only one link in a chain the beginning of which is a chemical affinity between opium and certain molecules in the nervous system. We observe that drugs having different chemical affinities differ in their effects on the body, while those belonging to the same chemical groups are nearly allied in their action. By altering the chemical composition of our drugs, we can alter the place of their action and change the nature of their effect. We can counteract the effects of one drug by another, and prevent death from a poisonous dose. We are learning the conditions which cause our drugs to affect one part of the organism rather than another, so that we hope ere long to foretell, from the chemical constitution of any substance, the organ it will attack, and the functional changes it will effect. At the same time, pathology is teaching us the parts we must act upon, and the nature of the influence we must exert in order to prevent or arrest the processes of disease. Thus we may hope to predict that a body, having a certain chemical constitution, will prove an efficient remedy in a particular disease. Hitherto we have been obliged to trust to the substances we procure from plants for our most powerful agents, and even if we were to know the constitution of the particular remedy we required, it might be impossible to procure it. But now one alkaloid has been made, another and another have rapidly followed it. We can change the constitution and action of these in the same way as those derived from the vegetable kingdom. It is, therefore, highly probable that we shall be able to produce artificially the substances which will act on the body in any way we desire. Nor may the time be so very far distant. When the oldest licentiates of this College now living were studying their profession, the discoveries of Lavoisier were novelties; digestion was still regarded as a process of solution; the functions of sensory and motor nerves were unknown, and the doctrine of reflex action was still far in the future. The distinction between the tissues had just been made, and the importance of the cell had not been recognised. Pathology had hardly begun, and scientific pharmacology did not exist. When we think of all this and compare it with our present knowledge, we are astonished. If we compare our practice, as in the first lecture, with that of the Egyptians and Greeks, we are discouraged; but if we

glance at the advance made during a single lifetime, we cry, Slow has been the advance of Medicine, because she went astray; but now the path that she follows is right, swift is her progress, and glorious will be her future.

ON THE

REDUCTION OF HIP-DISLOCATIONS BY MANIPULATION.

BY GEORGE W. CALLENDER, F.R.S.,
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MR. MORRIS having referred to some remarks of mine which were published in THE LANCET (1868) respecting the reduction of dislocation at the hip by manipulation, I think I ought to state that my views are in accord with those of my colleagues (now and when the late Mr. Coote was one of them) as to the manœuvre to be effected by manipulation, and to which our attention was especially directed by Professor Fabbri. Taking it for granted that his explanation as to the one primary form of hip-dislocation, and of his method of reduction, was known to the profession, Mr. Coote having then quite recently written on the subject, I sought to show, in the paper referred to, how a practical difficulty should be avoided. Looking at the manœuvres from this practical point of view it was a recognised fact that in hands having slight experience the head of the bone was liable to roll completely round the acetabulum, instead of entering the socket, if the femur was abducted when the thigh was depressed. I therefore pointed out that when the thigh was bent in extreme flexion upon the abdomen the shaft of the femur ought to be moved into a line precisely parallel with the long axis of the body, and in this precise line that it ought then to be extended until parallel with its fellow.

Probably that which leads Mr. Morris into a misapprehension is, after all, a question of the meaning attached to certain words. The femur is moved, circumducted, I believe, Professor Fabbri termed it when speaking to us on the subject, to a line parallel with the long axis of the body from the position it occupies when first flexed, when it is, of course (in dislocation on the dorsum ilii), carried up over the opposite thigh. But this circumduction is not rotation outwards. Rotation of the thigh is a movement of the femur on its axis. In moving the bone as I directed, the head of the femur is forced round the acetabulum to the lower edge of the socket; there is no rotation. Nor is there abduction; for abduction, if it means anything, is a movement outwards from the line of, or lines parallel with, the long axis of the body, of which movement in the case of the thigh the head of the femur is the centre; but in circumduction the head of the bone is forced to travel round the acetabulum, and is, therefore, in itself no centre of motion. The moment the surgeon moves the limb beyond this line of the long axis of the body he over-acts his part, and then it is, as he extends the thigh, that he runs the risk of rolling the head of the bone round the socket to the oval foramen, instead of slipping it into the acetabulum.

If Mr. Morris will be so good as to try these manœuvres on the dead subject, I think he will see the object I had in view in avoiding all reference to rotation and abduction—terms rather loosely used with reference to the manipulation—and in saying simply that the head of the bone, when flexed, was to be moved into a line parallel with the long axis of the trunk. There was no difference as to our views between Mr. Coote and myself. Writing shortly after his note had been published, I only sought to define as precisely as I could the nature of the manipulation which should be practised.

I have referred to observations on the dead subject. In his demonstrations Professor Fabbri, I well remember, asked for a knife with which to divide subcutaneously the fascia, because, he said, it saved him trouble in effecting the dislocation. But at our request he, without much difficulty, yet with a greater effort than had been required when the section had been made, produced the primary dislocation and its secondary forms without using the tenotomy knife. His plan, however, has been fully described. I thought his method and his explanation of its success had been long before the profession. I am, with Mr. Willett, surprised to find it is not so. It is referred to (besides the few remarks by Mr. Coote and by myself) in Holmes's work on "Surgery: its Principles and Practice." In its original form Professor Fabbri's paper may be found in vol. ii. of the Memorie della Soc. Med. Chir. de Bologna, 1841. The treatment by this form of manipulation is given by Professor Spence in his Lectures on Surgery, by Chassaignac (Opérations Chirurgicales, 1862), by Nélaton (Path. Chirurgicale, 1847-48), and may be traced in Poiteau's work (Mélanges de Chirurgie, 1760, p. 269) to M. Maisonneuve, surgeon-major in the regiment of Maugiron Cavalry. It is, no doubt, referred to in other surgical works. Notwithstanding these notices, there is, I think, room for a note on the practical point to which I have drawn attention, and a knowledge of which will enable surgeons to manipulate a hip-dislocation with greater ease and with a certainty of ensuring reduction.

It was not my good fortune to hear Mr. Morris's paper, and, of course, I have had no opportunity of seeing it. I am informed that it was in itself excellent and exhaustive in demonstration of the manner in which the femur is dislocated from the acetabulum. I am glad he has directed attention to the subject. For myself I write simply to state that there is no difference of opinion between my colleagues and myself as to the method, or as to the explanation of the method of reducing dislocations at the hip by a plan of manipulation which has been an established practice at St. Bartholomew's for many years, and for the knowledge and exposition of which we are indebted to Professor Fabbri's demonstrations.

CASES ILLUSTRATING THE ADVANTAGE OF THE GENU-PECTORAL POSITION.

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CASE 1. *Retroversion of the gravid uterus; retention of urine; redressed in the genu-pectoral position.* — R. C——, aged twenty-nine; married ten years; mother of three children. Between the third and fourth month of utero-gestation retention of urine occurred, necessitating the employment of the catheter; but no efforts were made to detect or obviate the cause of the retention. Two days afterwards she presented herself as an out-patient at Middlesex Hospital, complaining of severe bearing-down pain and inability to pass her urine. A No. 8 flexible gum-elastic catheter was introduced and two quarts of urine drawn off. The uterus was found to be enlarged to about the fourth month of utero-gestation, and retroverted, being wedged down beneath the promontory of the sacrum.

Attempts at replacement in the left lateral position failing, the patient was placed in the genu-pectoral position. Two fingers of the right hand were then inserted per vaginam and the fundus pressed to one side. On separating the fingers so as to allow pneumatic pressure to come into play, the uterus receded from the pelvis with a distinct noise as of air being sucked in. A Hodge's pessary was then inserted, and the patient directed to avoid sitting down in the ordinary posture for micturition; the genu-pectoral position to be resorted to at regular intervals. No recurrence of retention took place, and the patient progressed satisfactorily.

CASE 2. *Retroversion of the uterus; prolapse of the left ovary; sterility; cured by genu pectoral position.*—A. L——, aged twenty, married four years, sterile. Suffers much from severe pain in lower back, and down the left leg on standing or walking. Has severe pain in coitus and defecation, always worse just before the catamenial period.

On examination, the uterus was found to be retroverted,

and the left ovary prolapsed and exquisitely sensitive to the touch. On placing the patient in the genu-pectoral position, and allowing the air to enter per vaginam, the uterus was readily replaced, and the ovary could no longer be felt.

Impregnation having occurred after coitus in the genu-pectoral position, the patient missed her next period for the first time in her life. Considerable relief to the other symptoms was also experienced. A Hodge's pessary was passed, but could not be retained owing to the sensitive condition of the ovary. In consequence of some domestic trouble, the patient miscarried about the sixth week.

Impregnation again took place by resorting to the same posture, a month subsequent to this, and utero-gestation is now progressing accompanied by the usual symptoms. A Hodge's pessary together with a frequent resort to the genu-pectoral position, prevents the uterus remaining retroverted, and there is every prospect of the case proceeding to a favourable termination, and this after four years' sterility.

CASE 3.—*Retroversion of the uterus; adjustment of a Hodge's pessary; sterility; impregnation in genu-pectoral position.*—S. F——, aged twenty-nine, married two years; sterile. Uterus found to be retroverted; cervical canal slightly granular. A Hodge's pessary was inserted, and nitric acid applied to the cervix. Relief to the symptoms ensued, but the sterility remained unimproved. Impregnation ensued the very first time coitus was effected in the genu-pectoral position. The patient miscarried during the second month of utero-gestation from over-fatigue and jolting in an omnibus. The pessary remained in, but the patient never assumed the knee position, as she had no discomfort.

Eight months subsequently to this the local symptoms being very slight, the patient again consulted me respecting her infecundity. Adoption of the posture above-mentioned was advised, and later on I learnt that again she had become pregnant within a few days of my seeing her. Pregnancy advanced satisfactorily, the knee position being frequently resorted to until after the fifth month, with manifest relief to the morning sickness and the feeling of bearing-down.

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TYING THE LEFT SUBCLAVIAN ARTERY IN ITS THIRD PART FOR AXILLARY ANEURISM WITH AN ANTISEPTIC CATGUT LIGATURE.

BY G. Y. HEATH, M.B., M.R.C.S.

THE records of surgery do not exhibit ligature of the subclavian for axillary aneurism as a very successful proceeding; the cases collected by Scarpa, Travers, Norris, Koch, and Erichsen showing a mortality of about 50 percent. The snares and pitfalls lying in wait for the hand of the surgeon in this operation are indeed many, and, apparently, there is not one in which it has not at one time or another been caught. It is, in fact, a remarkable thing that every accident that would seem possible has befallen one operator or another in tying this artery. The ligature has been placed round a cervical nerve instead of the artery; the pleura, the vein, and the sac, have each been wounded; part of the vein has been included in the ligature with the artery; the artery has been pierced by the needle; and, lastly, the thoracic duct has been wounded. These casualties, occurring in the hands of the most skilful operators, indicate that ligature of this artery is often, as Fergusson called it, a troublesome affair, and not to be undertaken inconsiderately. Nevertheless, examples are not wanting in which the result has been a brilliant success: thus, in 1834, Lizars put a flaxen thread round the subclavian, and the wound united over the ligature, cut short, in four days. But even where all has gone smoothly during the operation, the dangers which afterwards beset the patient are such as to make us watch his condition with anxiety. If he escape hæmorrhage, pyæmia, cellulitis, or inflammation within the chest, may prove fatal, and even when apparently beyond danger he may succumb from suppuration in the sac.

Impressed with the unfavourable results of this operation and its perilous character, Mr. Holmes, in his exhaustive lectures on the Treatment of Aneurism, states that "the ligature of the subclavian artery is so dangerous an operation that it ought to be restricted to cases where pressure has failed, and to those in which, from the size and rapid growth of the axillary tumour, the surgeon thinks pressure unadvisable." It would seem, therefore, desirable that every case in which this operation has been practised, whatever the result, should be laid before the profession; on this account, and because in my case the antiseptic catgut ligature (which may be said to be still upon its trial) was employed, and also as I believe this is at present the only definitively successful case of the kind so treated, I am desirous of submitting it to the profession through the widely circulated pages of THE LANCET. For the details of the case I am indebted to the notes of my dresser, Mr. Craig.

James D——, aged forty-eight, cooper, was admitted into the Newcastle-upon-Tyne Infirmary on Nov. 23rd, 1876. He was a big man, tall, broad-shouldered, deep-chested, and muscular. A large pulsating tumour occupied the left armpit, reaching upwards to the collar-bone and downwards to the base of the pit. The pulsation was visible, especially just below the collar-bone and above the upper border of the small pectoral muscle, where less restrained by the muscular wall of the chest. To the hand the pulsation was distinctly aneurismal, and the contents of the sac chiefly fluid. The finger passed readily down upon the subclavian artery on the first rib, but strong pressure on the vessel was needed to stop the beating of the aneurism; and, although the collar-bone was not tilted up, the great muscular development of the man caused the artery to lie at a considerable depth behind the clavicle. There was no œdema of the left hand, but it was colder than the right, and the left pulse was weaker than the right. The left pupil was dilated. The patient complained of aching pain in the shoulder, back, neck, and arm, and of loss of power and numbness in the fingers. On examination, the heart, lungs, and great vessels within the chest were ascertained to be sound; the sight of the left eye was not materially affected; the urine was free from albumen, and its specific gravity 1012.

History.—Patient knew no cause of his disease. Had not had syphilis, nor recently suffered any accident; was temperate; as a young man had practised pugilism, but after marriage had given that up. In March, 1876, he had felt what he supposed to be rheumatic pains in the shoulder, and experienced unusual trouble in using his two-handed cooper's hammer. In June he first noticed a lump in the armpit; the swelling gradually increased, and by September had nearly filled the hollow. At that time he could not grasp objects so cleverly as before, and the fingers had become numb. He sought advice, and was told to poultice the swelling, supposed to be an abscess. Being subsequently advised to see Dr. Henry Ward of Blyth, D—— consulted him, and was at once told the nature of his disease.

Operation.—On Nov. 28th, five days after the patient's admission, the subclavian artery was tied at its third part with an antiseptic catgut ligature. In doing the operation the perpendicular incision was made short, and divided at once the skin and platysma. No director was used, the deep fascia of the neck being pinched up with forceps, and divided near the base of the omo-hyoid triangle. The external jugular vein was drawn aside by an aneurism needle; no other vein or arterial branch was seen before coming upon the subclavian itself. On raising the fascia the cervical nerves were first discovered; to their inner side lay a yellowish object, not unlike at first sight to the arterial sheath, but which turned out to be the usual[1] lymphatic gland, and some fat. These were removed, and beneath was the artery coming from behind the anterior scalenus. The great vein was seen in front, separated by a distinct space from the artery. At no time during the operation did the vein rise up swollen, and obscure or overlap the artery. The artery was larger than natural, dilated but not distended with blood; it looked and felt flaccid; it could not be seen to pulsate, and to touch its beat was indistinct; its compression instantly stopped the beating of

[1] Crossing: Med.-Chir. Trans., vol. xvi.

the aneurism. The arterial sheath having been carefully opened, an unarmed aneurismal needle was gently passed under the artery at its lower and inner side, and now it was that the only difficulty in the operation occurred. I have said that the artery was enlarged, but flaccid, not distended with blood. Thus it happened that as the needle was pushed under and round the artery, its flaccid coats were pushed on before the needle. A careless or impatient thrust would have pierced the walls of the vessel; the needle had therefore to be a little withdrawn, and passed on again. More than once this manœuvre was required, but being fully bent upon passing my needle close round the artery as it lay over the upper edge of the rib, and doing so without either injuring the pleura, unduly lacerating the cellular tissue, disturbing the connexions of the artery, or injuring the last, I persevered patiently, until, by a little humouring, I succeeded in passing my needle as I wished. It was then threaded with a No. 1 carbolised catgut ligature. No force was used in tying the ligature, which was not applied with the object or intention of dividing the internal coats of the vessel. On tightening the catgut pulsation ceased in the aneurism.

But little blood, not more than an ounce, was lost during the operation, which was done according to the antiseptic method. A small drainage-tube was laid from the deeper part of the wound to its outer extremity, which, as the patient was to lie on the left side, would be the most depending point. The usual antiseptic dressings were employed; a smaller (six-ply) gauze cover, large enough to extend some inches beyond the wound in every direction, was placed next the wet padding immediately over the wound, and a larger (eight-ply) gauze cover, such as is used after removal of the breast, was placed over the shoulder, left arm, and side of the chest. A short gauze bandage kept the first cover in place; a longer (ten yards long, four inches wide) gauze bandage kept the larger cover and the arm secure. The larger cover was left off after a few days, when the wound had become superficial; the smaller was continued until cicatrisation was about complete.

The temperature, taken by the nurse in the right armpit immediately after the return of the patient to the ward, was 100°. There was a good deal of pain in the arm at 3 P.M., for which an under-skin injection was made. The patient ate a hearty meal at tea-time, and at 6 P.M. the temperature was 98·6° and the pulse 72.

The after-progress of the case is soon told, for in fact there is little to tell. The patient had simply no symptoms. There was no fever nor pus, but a natural pulse and temperature were noted throughout. Several of the sutures were removed on the fourth day; the remainder, and the drainage-tube, which had already been shortened, on the sixth, when the greater part of the wound was closed, and what remained open was superficial. On the fourteenth day cicatrisation was complete, with the exception of a small point at the drainage-tube opening.

The patient, from the evening of the day of operation, expressed himself as feeling perfectly well, and said that, were it not for his freedom from the old pain in his arm, he should not have known that anything had been done to him. On November 30th, the second day after the ligature, pulsation was just perceptible at the wrist.

D—— left the infirmary about six weeks after the operation. At the time of his outgoing the power was returning in the arm and the numbness had left the fingers. The aneurismal tumour had diminished considerably in size, but was not hard; it gave the impression to the hand of being still chiefly constituted of soft coagulum. I was desirous of retaining him in the house some time longer in order to watch the further changes in the sac, but he felt himself so well that he could not be persuaded to remain, and, in fact, took the opportunity while out on leave of departing entirely.

(To be concluded.)

DEWSBURY HOSPITAL AND DISPENSARY.—The present premises in Northgate are to be vacated in May, and a temporary place is to be taken until an infirmary can be built. On the 3rd inst. there were "Hospital Saturday" collections in the mills and workshops of Dewsbury, Batley, Thornhill, Ravensthorpe, and Soothill, and it has been ascertained that the total amount would exceed £1000—a noble gift by the working classes.

A Mirror OF HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

CHEYNE-STOKES' BREATHING IN A CASE OF TYPHOID FEVER.

(Under the care of Dr. ANDREW.)

THE following case of typhoid fever (for the notes of which we are indebted to Mr. R. Wharry, M.B.), was complicated with extensive consolidation of the right lung; and when the exhaustion was extreme, the phenomenon of Cheyne-Stokes' breathing developed. The respiration first became irregular, and then developed the peculiar rhythm with the intervals of apnœa. As the patient rallied the breathing again became regular. While the rhythmical breathing was present the patient was comatose and markedly livid. There was no coarse cardiac lesion that could be detected by the stethoscope, except the softening of the muscular tissue that usually occurs in the specific fevers, evidenced by the weakening and prolongation of the first sound. Large quantities of brandy were administered; for a short time the patient took an ounce every hour. During convalescence delirium supervened when the brandy was reduced from six to three ounces daily, and disappeared immediately upon increasing the brandy again.

William G——, aged twenty-three years, employed at a brewery, but a total abstainer, was admitted on Sept. 9th, 1876. On admission there was lateral decubitus, the expression was heavy, face slightly flushed, eyes sunken, cheeks hollow, conjunctivæ suffused, pupils small, lips dry, and skin dusky. The tongue was dry, and had a brown central streak; it was fissured and tremulous. There were sordes on the lips and teeth, and the breath was offensive. There was slight deafness, and the alæ nasi were dilated. The skin of the extremities was livid and mottled. Temperature 101·8°; pulse 96, soft and dicrotous. The thorax presented the physical signs of acute pulmonary catarrh, and the heart-sounds were very feeble. The abdomen was not full; there was tenderness in the right iliac region; and the bladder was empty. There was a copious eruption of rose-coloured, slightly elevated spots scattered over the abdomen, thorax, and extremities, which disappeared on pressure. The bowels were open frequently. According to the history, he had been out of health for six weeks, and on Aug. 28th had several attacks of shivering; since then he had had diarrhœa. The family history was good. He was ordered milk diet, two eggs, five ounces of meat-essence, and four ounces of brandy; fifteen drops of dilute hydrochloric acid in an ounce of water to be taken three times a day; a starch injection, with thirty drops of tincture of opium, to be given at once, and a linseed-meal poultice applied to the abdomen.

Sept. 11th.—Temperature 103·4°; pulse 112, dicrotous, very weak; respiration 36. Skin dusky; sordes on lips and teeth; tongue red and dry, with a central streak; heart-sounds very feeble; abdomen not tub-shaped; tenderness in right iliac region; bowels open three times.

13th.—Expression heavy; left cheek flushed; pupils not large; tongue very dry and brown; dorsal decubitus, delirium, and floccitatio. Temperature 102°; pulse 96, soft and dicrotous; respiration 32. The cough is troublesome; the first sound of the heart is very weak at the apex; the spots on the abdomen have deepened in colour, and are more numerous; there is a well-marked tâche cérébrale; there are some spots scattered over the arms and thighs; bowels open three times.—10 P.M.: Right lateral decubitus; slight delirium. Temperature 104°; pulse 112. Takes his food well.

14th.—Passed a fairly good night, with slight muttering

delirium; dorsal decubitus; is in a semi-comatose state; complexion more dusky; hands rather cold; tongue more tremulous; cough continues to be troublesome; the skin of abdomen is more dusky; abdomen is more distended; bowels open twice; passes his motions under him; stools are still characteristic; bladder empty. Temperature 102·6°; pulse 108, dicrotous, small, and weak. A fit of coughing produces intense lividity of the face, followed by a slight rigor. Ordered mustard poultice between the scapulæ, and five grains of Dover's powder every night.

15th.—When seen last night he was lying on his side, sleeping and occasionally muttering. His bowels were open four times between 8.30 P.M. and 9.30 P.M, and he was ordered starch injection, with ten drops of tincture of opium. This morning, dorsal decubitus; muttering delirium; conjunctivæ injected; better complexion; tongue has slightly improved in condition. Temperature 103·9°; pulse 112, better volume; respiration 28, deep; copious sibilus and rhonchus heard on auscultation. There are a great number of spots scattered over the abdomen, lower thoracic region, arms, and thighs, and one spot on the right hand and one on the right foot; much less mottling of the limbs; passes all his motions under him; bladder not distended; bowels not open since enema was given; cough less troublesome since he has been taking the Dover's powder.

16th.—Temperature 102·7°; pulse 112, less in volume; respiration 36, fairly deep; lateral decubitus; better complexion; tongue less dry and less tremulous, but secretions still clog the mouth; he is more sensible of external impressions; slept quietly, with but very little muttering, during the night, lying on his side. The cough has been more troublesome this morning; his bowels have been open twice in twenty-four hours, and motions not passed under him; passed urine under him when asleep.—10 P.M.: Temperature 104·2°.

17th.—Temperature 102·8°; pulse 105; respiration 36; dorsal decubitus; not quite so bright about the face; cough very troublesome; tongue more dry; a fresh crop of spots has appeared; the cervical vessels pulsate; the first sound of the heart is hardly so clear. He slept on his side; slight muttering. Passes his motions under him; bowels open once.—11 P.M.: Not so well this evening; very much troubled with cough. Restless delirium, frequently getting out of bed; subsultus tendinum and general trembling. Temperature 104°; pulse 110; respiration 36. Ordered five grains of Dover's powder at once, and a linseed poultice in the interscapular region.

18th.—Dorsal decubitus; mental condition dull and heavy; flush on left cheek; frequent muttering; countenance more dusky. Temperature 102·4°; pulse 116; very weak and dicrotous; coughing incessantly; tongue very dry and tremulous. A fresh crop of spots has appeared scattered over the abdomen, thighs, and back; also on the backs of the hands, wrists, and ankles. The spots are rose-colour, lenticular, and disappear on pressure. The older spots have become more markedly papular, and a few even vesicular. The abdomen is more full. There is less general mottling of the skin. The bladder is not distended. The bowels were open three times, but the stools contained no blood. During the night he was very restless, but got about three hours' sleep. Upon casually examining the chest, dulness was found in the right lateral region with bronchial breathing.

20th.—Temperature 101·4°; pulse 116, weaker and less in volume; respiration 40. The breathing is not quite regular, being sometimes checked. Complexion fairly good. Semi-dorsal decubitus; semi-comatose; no muttering. Tongue and mouth clogged with secretion; increased subsultus. Bowels open twice. Cough was better during the night, after five grains of Dover's powder, but troublesome this morning again.—10 P.M.: Temperature 102°; pulse 110; respiration 28.

21st.—Temperature 100·6°; pulse 114, more feeble; respiration 32, deep, but not quite regular. Dorsal decubitus. Passed a fairly good night, but muttered during sleep. Conjunctivæ are injected. Tongue dry and clogged and very tremulous. Increased subsultus. Takes his food fairly well. Cough troublesome this morning. Passes his motions under him again; bowels open once.—10 P.M.: Temperature 101·7°; pulse 120; respiration 30, and more laboured. Patient more restless, and general condition worse. Ordered essence of beef to be increased to one pint daily; linseed poultice to chest; the hydrochloric acid to be discontinued; to have five grains of carbonate of ammonia, five drops of ipecacuanha wine, in one ounce of serpentary, every four hours.

22nd.—Temperature 100·5°; pulse 110, weaker; respiration 29, quieter; face more dusky. Mental state more heavy. Cough better. Slept for about three hours during the night. Takes his nourishment well. Conjunctivæ dry and injected; rolling of the eyes. Twitching about the mouth; tongue seems to be not quite so dried up. There is very much subsultus. Heart-sounds more faint, the first being almost inaudible. Percussion impaired at the apices of both lungs; abundant bronchial râles everywhere. Efforts at expectoration very feeble. Bowels have not been open. Feet warm. Ordered a flying blister to the sternum, and half an ounce of brandy every hour.—8 P.M.: Temperature 102·2°; pulse 120, very weak, but somewhat better in volume; respiration varies between 24 and 40. Seems to cough with more vigour. Face flushed and brighter in colour. Slightly less subsultus. Hands and feet show a tendency to coldness. Passes his urine freely; bowels not open.—10 P.M.: Pulse 124, less volume; respiration 36, irregular. Coughs vigorously; hands warm.—2 A.M.: Temperature 101·7°; pulse 120; respiration 40, irregular. Sleeping.

23rd.—Temperature 101·7°; pulse 116 (can be more readily counted, owing to less subsultus), fair volume, but very soft; respiration about 32; the breathing is irregular, with a distinct ascending and descending rhythm. From 3.30 P.M. to 8.30 P.M., ordered one ounce of brandy every hour. From 8 P.M. till 10 P.M., half an ounce of brandy was given; the brandy was then stopped till 8 A.M.; between 8 A.M. and 1 P.M. this day he took two ounces of brandy. General condition improved; no muttering; feet warm; the heart-sounds are about the same; the bowels open once.—9 30 P.M.: Temperature 102·7°; pulse 120, volume less good; respiration from 30 to 40; complexion not quite so good; face bathed in perspiration; breathing is irregular, and sometimes stops; cough more troublesome; the feet have a tendency to coldness.

24th.—Dorsal decubitus; face dusky; comatose; Cheyne-Stokes' breathing; twenty-five seconds are occupied from the beginning of the ascending to the end of the descending scale of breathing, then follows an interval of ten seconds, during which no inspiration is made. The breathing begins with very shallow respiration, gradually becoming deeper, till it becomes quite laboured, then it gradually subsides again. While the breathing is laboured the patient is a little restless, moving his head. Pulse 100, better volume; temperature 101·2°. There is less subsultus tendinum; the heart-sounds are very feeble; the patient coughs but little; the extremities are warm (hot-water bottle to feet); threatening bedsores on shoulders, elbows, and hips. Took five ounces of brandy between 10 P.M. and 9 A.M.; this morning, from 11 A.M. to 3 P.M., took one ounce every hour; and from 3 P.M. till midnight took two drachms every hour. Skin dressed with starch powder and cotton-wool to protect it from bedsores.—10 P.M.: Temperature 100·9°; pulse 108; respiration 30, less irregular; sleeping; face bathed in perspiration; slight muttering; takes his nourishment well.

25th (twenty-ninth day of fever).—Temperature 99·6°; pulse 104, fair volume, better power; respiration 36, regular; face dusky; mouth clogged with secretion; less subsultus; skin moist, hands warm; less cough; heart-sounds more audible, bowels not open. Still consolidation of the lower half of the right lung. Ordered milk diet, beef-tea, three eggs in one pint of essence of beef, six ounces of brandy.

26th.—Temperature 100·3°; pulse 92, dicrotous; respiration 28, slightly irregular; face dusky; heart-sounds a little more forcible; skin moist, an abundant crop of sudamina. Passes his urine in bed.

27th.—Temperature 100·6°; pulse 108, dicrotous, and stronger; respiration 24. There is a marked improvement in the general condition. Sleeping quietly; dorsal decubitus; better complexion; tongue very dry, but more steady. Takes abundant nourishment. Bowels open twice; abdomen less full. Ordered one more egg, and three pints of milk.—11 P.M.: Temperature 100·9°; pulse 108, dicrotous; respiration 38, regular. Cough troublesome, but vigorous; expectoration is scanty, viscid, and blood-tinged.

28th.—Temperature 101·6°; pulse 100; respiration deep and more regular. Cough less troublesome; bowels open

twice, relaxed. Urine: specific gravity 1018, acid, no albumen. Physical signs in the chest improving.

29th. — Temperature 97·7°; pulse 100; respiration 24. Cough less troublesome; heart-sounds better, the first sound being much louder than the second. Brandy to be reduced to three ounces daily.

30th. — Temperature 96·4°; pulse 88; respiration 20. Sleeping; occasionally grinds his teeth. Has asked for solid food. Bowels not open.

Oct. 1st. — Temperature 96·8°; pulse 96; respiration 16. Looks better; cough less troublesome; heart-sounds clearer.

2nd. — Temperature 96·4°; pulse 96; respiration 20. General condition much improved. Speaks rationally. Tongue steady, but still dry. Asks for solid food. Bowels open once; less relaxed.

4th. — Temperature 96·8°; pulse 84, small and feeble; respiration 24. Slept well. Bowels open.

5th.—Last evening he became delirious, frequently trying to get out of bed. Was given brandy and nourishment; then he became quiet, and slept well. Temperature 97·1°; pulse 84, very weak, rather small; respiration 18. No return of the delirium. Ordered brandy to be increased to six ounces daily, and custard pudding instead of two eggs.

8th.—Temperature 98·2°; pulse 108, soft and small; respiration 24. Tongue becoming moist; sleeps on his side; dejections semi-solid.

10th.—Ordered fish.

11th.—Ordered eight ounces of wine instead of the brandy.

12th.—Temperature 97°; pulse 78; respiration 20. Progressing well. Pupils small; cardiac sound is a little prolonged at the apex.

14th.—Temperature 96·8°; pulse 90, small, and weak; respiration 20. Talks and mutters a little during sleep. Ordered a chop instead of fish; one grain of quinine thrice a day instead of the draught ordered Sept. 21st.

19th.—Temperature 97·2°; pulse 96. Progresses well. Pupils large; heart-sounds clear, but weak. Bowels open last on the 16th. Was up yesterday for the first time. From this date convalescence rapidly progressed.

Nov. 3rd.—Still rather weak and thin. Heart-sounds quite normal. Sent to a convalescent home.

STATION HOSPITAL, COLCHESTER.

POPLITEAL ANEURISM; INSTRUMENTAL AND MANUAL COMPRESSION; CURE.

(Under the care of Surgeon VIVIAN WEARNE.)

GUNNER H. G——, aged forty-eight years, an artillery-man, was admitted by Surgeon-Major Mitchell, on the 4th December, 1876. He stated that two months ago, after gun-drill, he experienced pain in the calf of the right leg. Gun-drill was an unusual exertion for him, as he worked in the tailor's shop. During the six weeks following the gun-drill he suffered at intervals from pain in the calf of the right leg. A fortnight ago he noticed pulsation in the right ham; from then the pain had been continuous in the ham and leg; he could not walk without pain, as the right leg was very stiff.

On admission the man presented an intemperate and prematurely aged appearance. There was an aneurism about the size of a billiard-ball in the right popliteal space; it was situated on the lower part of the course of the vessel, and pulsated strongly; the sac was thin, and the contents fluid. He was of an irritable, nervous disposition. Heart's action weak; circulation feeble. He was subject to cold extremities. Urine, sp. gr. 1030, alkaline, loaded with phosphates, the result of a chronic stricture. He has recently been in hospital for delirium tremens, and also for stricture of urethra.

Taking into consideration the debilitated condition of this man's health, and the weak state of his circulatory system, it was deemed advisable in treating the aneurism to employ compression, the process to extend for a period of many days. Treatment was commenced on the 9th of December. A tourniquet was applied to the femoral artery in Scarpa's triangle, so as to diminish the circulation through the aneurism very perceptibly. Compression was continued for fourteen hours, and omitted at night-time.

The pad of the tourniquet irritated the skin, and on the 10th nine pounds of shot in a conical case was applied to the artery at the brim of the pelvis, by which means the pulsation in the aneurism was well controlled. Compression kept up fourteen hours.

Next day he complained of pain around the knee and extending down the leg.

From the 9th compression was employed fourteen hours daily, chiefly by the shot-bag, which he bore well. On the 17th the aneurism felt more solid.

On the 20th, in addition to the compression exercised by the shot-bag, manual pressure for three hours was begun, when the circulation through the sac was arrested.

On the 21st manual compression for four hours, and the shot-bag applied for ten hours more.

The same treatment on the 22nd. Cramps and pains in the leg became very severe, and were not relieved by full doses of chloral. When manual compression was omitted there was lessened pulsation in the aneurism, but the foot was cold and the pains very severe. The foot was wrapped in cotton-wool and flannel bandages.

On the 23rd he looked haggard and worn; his health had suffered much in the last week, his nights were sleepless, and he was irritable and could not endure pain. It was resolved to discontinue manual compression until his condition was stronger. The shot-bag and tourniquet were applied fourteen hours daily.

For fourteen hours daily since the 23rd the circulation through the aneurism was lessened. The result of the treatment was that on Jan. 3rd the aneurism felt more solid and the pulsation had diminished. The man's general health had improved. At 2 P.M. (Jan. 3rd), manual pressure was begun by relays of orderlies, and the circulation through the aneurism arrested. At 6 P.M. slight pulsation only was felt. At 9 P.M. pulsation ceased in the aneurism, the temperature of the limb fell slightly, and the leg became swollen. The orderlies were dismissed, but the patient remained awake all night and applied pressure to the shot-bag.

No pulsation was perceptible in the sac next day. Tourniquet applied during the day.

On the 6th the aneurism was smaller, and felt solid. The swelling of the leg was gradually decreasing; a small artery beat perceptibly over the head of the fibula; collateral circulation established; shot-bag applied during the day.

On the 12th there was no return of pulsation. Compression was omitted on the 17th, when the man was convalescent. He was up and dressed on the 20th and walking about the ward.

Remarks.—Considering the broken-down state of health and diseased condition of the circulatory system, produced by alcholism, in this patient, it is very doubtful whether the rapid method of curing the aneurism could have succeeded. Until the collateral circulation was established by gradual compression continued for some time, it was not thought advisable to arrest the circulation through the aneurism too suddenly.

HOSPITAL FOR WOMEN AND CHILDREN, CORK.

CYST CONNECTED WITH THE THYROID BODY PRODUCING SUFFOCATIVE SYMPTOMS; ENUCLEATION; RECOVERY.

(Under the care of Dr. H. MACNAUGHTON JONES.)

M. D——, aged forty, had been in another institution, and was discharged without material relief. She was sent to this hospital in July, 1876. She then suffered from difficulty of breathing, and complained of distress occasioned by the pressure of the tumour on the trachea. The tumour was about the size of a hen's egg. Finding the cyst movable Dr. Jones determined to enucleate it. This he did on the 19th of July, assisted by his colleagues, Drs. Cummins and Curtis. The cyst was pushed well up from the episternal depression into the neck, and a preliminary incision, about three inches long, was made a little to the left of the mesial line. Dr. Cummins retained the cyst in this position with a fine tenaculum during the operation. No anæsthetic was given. With a narrow scalpel and a fine blunt-pointed

tenotome the cyst was cautiously exposed, and pushed forward into the wound. The dissection was continued with the narrow knife and the handle of the tenotome, each bloodvessel being ligatured as it came into view, and a few small ones were twisted. When all the vessels were tied, the cyst was finally enucleated, and when the bleeding was completely stopped, the wound was brought together with some wire sutures, and dressed with salicylic dressings, which were continued until the wound healed. The patient was dismissed on August 14th.

EXCISION OF NECK OF FEMUR.

There is at present in the hospital a case of excision of the neck of the femur in a child for old-standing necrosis associated with abscess over the trochanter, which had been repeatedly aspirated. The child is up to the present doing well. The operation was done according to Lister's antiseptic method.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE ordinary meeting of this Society was held on the 13th inst., Dr. Charles West, President, in the chair. An elaborate paper by Dr. Gowers and Mr. Sankey was read, dealing with the pathological anatomy of "Canine Chorea;" the paper was illustrated by a series of microscopical preparations. A brief note by Mr. Wilkes, of Salisbury, on an unsual case of stone in the bladder, and a paper by Mr. Barwell upon congenital dislocations of the knee, were also read.

Dr. WEST, on taking the chair as President for the first time, acknowledged with hearty thanks his sense of the honour done him by the Society. To be chosen President of that Society was, he considered, the highest honour to which any member of the profession could aspire. Although he felt some misgivings in having to follow so closely upon his eminent predecessor, he would have the advantage of the Society's seventy years of tradition to guide him in maintaining its honour and dignity.

A paper was read on "The Pathological Anatomy of Canine Chorea," by Dr. W. R. GOWERS and Mr. H. R. O. SANKEY. The paper contains an account of the changes found in the nerve-centres in two cases of the disease of the dog which has been termed chorea, although it bears but little resemblance to the chorea of man. It consists of quick muscular contractions, separated by an interval, and without incoordination, or fidgety movement. In the two cases the movements were similar. In one they were confined to one foreleg, and the changes found in the nerve-centres were slight, the medulla oblongata presenting nothing abnormal. In the spinal cord the large nerve-cells of the cervical region were very granular and appeared swollen, the body of the cell being in some instances apparently distended with granules so that it had an almost globular form. This change was more marked on the right side than on the left. In the upper part of the cervical region there was a slight increase in the minute nuclei of the anterior column on the right side. In the upper lumbar region the nerve-cells of the right posterior vesicular column were much more granular than those of the left. In the other case, a young retriever, the twitchings were general and had commenced (in one foreleg) after distemper, two months before death. They were more marked when the animal was at rest, and were accompanied with considerable weakness; in the limbs, especially the hind limbs, sensation was considerably diminished, the posterior half of the trunk and hind limb being quite insensitive. The muscles of the neck and those of the larynx, tongue, and jaw were involved in the twitching. After death the heart, the muscles, and the cerebral hemispheres with the central ganglia were healthy. Microscopic examination showed extensive disease in the spinal cord, medulla oblongata, and cerebellum. The most conspicuous change was an infiltration of small round lymphoid cells, precisely resembling white blood-corpuscles. Areas so infiltrated were found abundantly in both white and grey substance in all parts of the cord, the distribution varying much: in some parts in the lateral, in others in the anterior, in others in the posterior columns. In places the anterior, in others the posterior grey cornua were infiltrated. In some places the nerve-tissue appeared disintegrated and destroyed, but there the infiltration was slighter; it was in the form of ramifying tracts, always corresponding to the course of vessels. From this the authors are inclined to regard it as a leucocytal infiltration. The nerve-cells in many parts appeared healthy, but in others were very granular, and in some parts were surrounded by the lymphoid cells. Some nerve-cells had a granular centre and an ill-defined boundary. The protoplasm of many was encroached on by vacuoles, partly outside the cells. These had in places almost destroyed the cells. They appeared formed during the process of hardening, but the authors suggest that they are of pathological significance, since they were absent in another cord similarly prepared. In the medulla oblongata the changes were similar but slighter, and confined to scattered areas of cellular infiltration. A similar infiltration existed extensively in the medulla of the cerebellum, and was in some places very dense. The cortex of the cerebellum, however, was healthy. In each dog the effect of section of the cord was observed. In the slighter case Dr. Hughlings Jackson had noted that the movements continued for a few moments after pithing. In the other, in which the changes in the cord were extensive, artificial respiration was kept up after division of the cord, and no movements occurred in the parts below the section, although they continued in the muscles of the head and jaw. In other recorded cases, however, similar movements have been observed to persist after the section of the cord. It is remarkable, therefore, that in this case, in which the cord was so diseased, the movements should have been arrested. It is possible that in some cases the movements may be encephalic (perhaps cerebellar), in others of spinal origin; but another explanation of the cessation of the movements may be that the section of the cord temporarily inhibited by shock the action of the weakened nerve-cells of the cord. The cellular infiltration appears from its course to have been the result of vascular disturbance, but whether primary or the result of functional over-action of the nerve-elements, it is difficult to say. Its random position indicates an independent progress, and accounts for the motor and sensory paralysis, but its limitation to the cord, medulla, and cerebellum suggests a primary dependence on functional disturbance of the nerve-elements. The only morbid appearance common to the two cases was a change in the nerve-cells of the cord, and this may be regarded as the primary morbid change, the indication of their over-action, to which the vascular change and cellular infiltration are secondary in origin. To decide these and other points, however, further observations are necessary.—The PRESIDENT, in according to the authors a vote of thanks, said that good honest work like this was never lost, serving as materials from which hereafter some real and important conclusions may be deduced.—Dr. CADDY made some remarks tending to show the dependence of differences in muscular power among animals upon the development of the spinal cord.—Dr. JOHN HARLEY said that probably what had been found in the case of the dog would be equally applicable to man; and he agreed in the suggestion thrown out by the authors of the paper, that the movements of chorea are probably due to the intrinsic action of the nerve-cells, to which the vascular changes are secondary. He had himself been enabled to produce chorea artificially in the dog by the administration of the alkaloid cryptopia. The movements came on about half an hour after the absorption of the drug, and lasted until it was eliminated. This could only be by its direct action on the nerve-cells, especially as examination of the spinal cords of animals so treated did not reveal any evidence of intense vascular congestion or stasis.

A paper was then read on a "Case of Vesical Calculus, the nucleus of which was a piece of necrosed bone; removed by Lithotomy," by Mr. W. D. WILKES, Surgeon to the Salisbury Infirmary. The patient, M. P——, aged fifty, an agricultural labourer, a tall, thin man, was admitted into the Salisbury Infirmary in Oct., 1876, for stone in the bladder. A small orifice to urethra and sensitive passages indicated

lithotomy rather than lithotrity, and the former operation (lateral) was performed on Oct. 30th. After several unsuccessful attempts, the stone was grasped by a large forceps, and became crushed in them, whilst holding it firmly for extraction. After extracting the large fragments, a large piece was found on a kind of shelf on the upper and back part of the bladder, of which a piece of necrosed bone was the nucleus. There was no vessel to tie, no tube was inserted, and the patient was in a very fair state. After the operation it was learnt that thirteen years ago the patient fell from a tree some eighteen or twenty feet upon his right hip; an abscess formed, and two or three pieces of dead bone came away from the inside of the right thigh, just below the adductor longus. He had no trouble till March, 1876, when bladder symptoms began. The nucleus of necrosed bone weighs 8 grains, the crushed fusible calculus (dry) weighs 430 grains. The patient is now all but well. The case is another illustration of an unusual cause of calculus in the bladder, from necrosed bone detached from a neighbouring portion of the skeleton, the first case having been reported to the Society by Sir Henry Thompson in 1866, who also had a similar case at University College Hospital in a lad of fifteen years of age, in 1872, who made a good recovery.

This was followed by a paper on "Congenital Dislocation of the Knee, Tibia forwards," by Mr. RICHARD BARWELL, of which the following is an abstract. Harry B——, aged six weeks, was brought to Charing-cross Hospital to see Dr. Barlow on account of an eruption about the thighs, on October 24th, 1876. This was quite unimportant, but Dr. Barlow detected an abnormal condition about the lower limbs, and asked Mr. Barwell to see the child. The position of the thighs and legs was unusual, the former being kept extended on the body, the latter hyperextended at the knee. Across the front of the joint was a deep tegumentary fold, above which the parts, more especially in the middle line of the limb, were soft, sinking deeply, and below which the tuberosities of the tibia could be felt unduly prominent. The popliteal depression was replaced by a protuberance, which could be felt as double, and was easily recognised as the condyles of the femur; below this the normal hardness over the back of the tibia was lost. Mr. Barwell diagnosed congenital dislocation (almost complete) of the tibia forward. On the left side, the patella, though small, was evident; on the right, he could, with the most careful examination, find no patella. Besides this condition of the knees, the following peculiarities existed. The thighs could not be straightened on the pelvis; this was compensated by remarkable flexibility of the loins, the position simulating though not due to hip dislocation; there was equino-varus of the right foot, and slight double internal strabismus. This is the fourth child of healthy parents; there is no deformity in any branch of the family; the birth was normal, head-presentation without instruments. During the third month of gestation the mother had a fall down stairs; during the sixth a severe fright. She had a very uncomfortable pregnancy, not being able to get about, for it was very low down. Partly on account of the skin eruption, partly on account of his being "a very wet baby" Mr. Barwell thought it better to postpone active treatment, but saw the child from time to time. Although a simple attempt to flex the limb entirely failed, yet he found that by placing the thumbs on the tuberosity of the tibia in front, and the fingers on the femoral condyles behind, he could partially reduce the dislocation, and then bend the limb somewhat; therefore when other circumstances suited he had the child admitted into hospital, and on the 9th of January, chloroform being administered, he pressed the joint as far as possible into position and flexed the limbs in much as could be effected without using too much force, then placed them in plaster of Paris. The left could be more perfectly bent than the right. In a fortnight this was repeated, and both limbs could now be well bent, and the tibia lay in good position; the left patella had increased in size, the right one could be felt, but was small. On Feb. 10th the plaster was removed: knee in good position; movement good; no dressing applied, but free passive motion in the direction of flexion enjoined. At this date the knees were normal, and could both be bent till the heel was close to the buttock; the patellæ on both sides nearly or quite normal; the fold of skin across the front of the joint had disappeared. This deformity is so rare that there are not half a dozen cases on record. One is given by von Ammon; two specimens, probably still-born children, shown by Guérin; one case seen by Hilton, one mentioned by him as having been seen by Sir Astley Cooper; and one case, recently reported at the Clinical Society, by Mr. Godlee. Some of these cases are described as congenital absence of the patella, others (Guérin and Godlee) as dislocation forward of the tibia at the knee. The author submits that since dislocation is not always present when the patella is absent, and the patella is present when dislocations occur, this absence or presence is an unessential feature in the case, and ought not to give the name to this condition. The only writers who speak of any treatment are Hilton and Godlee. The former surgeon's can hardly be called treatment, as the patient only learned to walk fairly well in about twenty-four years. Mr. Godlee treated his case by instruments; the child crept about tolerably well, but did not use the leg nicely at the fifteenth month. Mr. Barwell's case was cured in about six weeks of treatment, and he thinks the mode of treating the dislocation the correct one.—Mr. ADAMS questioned whether enough importance had been attached to the general condition of the limbs; he understood that both hips and feet were deformed, and considered it in that case resembling those instances of muscular deformity which are mostly found in the subjects of breech-presentation. In such cases the condyles of the femur could be felt in the popliteal space, but the luxation was very slight. Slow forcible flexion of the legs mostly cured these cases.—Mr. HULKE pointed out that in the cases referred to by Mr. Adams the knee-joint is fixed; in Mr. Barwell's and like cases the joint is very loose and mobile. —Mr. JOHN WOOD remarked that the treatment in Mr. Barwell's case was pursued for a very short time with great result. He supposed the dislocation was a partial one, connected with laxity of the ligaments of the knee-joint. — Mr. HULKE referred to a specimen shown by Mr. Adams at another Society some years ago, which illustrated the fact that in older subjects a displacement of the lower epiphysis of the femur may simulate so-called anterior dislocation of the knee. The case was that of a lad about twelve or thirteen years of age, in whom the epiphysis had been displaced by injury.—Mr. BARWELL, in reply, said that his patient was not an example of breech presentation. The mother stated the labour to have been quite natural. Only one foot—viz., the left—presented an equino-varus. The difference between Mr. Adams's cases and his own was that in the former the limbs were small and ill-nourished, but in the latter it was quite the reverse. The forward displacement of the tibia was very well marked, the dislocation being nearly entire. He attributed the condition rather to shortness of muscle, especially the rectus, than to anything else. In Mr. Godlee's and Mr. Hilton's cases the joint was very lax, and could be moved in every direction except that of flexion, but in his own case no lateral movement could be obtained. He was equally surprised with Mr. Wood that the child recovered so rapidly—viz., after wearing a plaster-of-Paris splint for two periods of two and three weeks respectively.

The Society then adjourned.

CLINICAL SOCIETY OF LONDON.

THE ordinary meeting of this Society was held on Friday, March 9th, Geo. Callender, Esq., F.R.C.S., the President, in the chair. Some interesting cases of exophthalmic goitre with unusual symptoms were shown by Dr. Burney Yeo, and other papers of interest were read by Mr. Godlee, Dr. Theodore Williams, and Mr. Lowne. Mr. Godlee in his note on gas in the peritoneal cavity, called attention to an hitherto unobserved fact likely to be of practical value to surgeons. The President requested that members who desired to read papers should send them in not later than a week before the meeting at which they were to be read.

Dr. BURNEY YEO brought forward two cases of Exophthalmic Goitre, one of which presented some phenomena which he believed to be new. The patient, a married woman thirty-five years of age, came under observation in May, 1876, having suffered from palpitation for about three

months. She complained also of pain in the left side, cough, and dyspnœa. She had lost flesh, had no appetite, and was constantly troubled with vomiting and diarrhœa. She frequently became hot and flushed, and perspired profusely. More than eighteen months before her friends had noticed a change in her appearance during her recovery from an attack of fever which almost immediately followed confinement, which she thinks was unduly hastened by the administration of ergot. She then looked so wild that her friends would not let her look at herself in the glass. When Dr. Yeo first saw her there was very marked exophthalmos of the left eye, with considerable enlargement of the right lobe of the thyroid. Pulse 136. Both the thyroid enlargement and the exophthalmos presented a decidedly unilateral character. Digitalis and belladonna produced no effect upon the palpitation. In June a new and singular phenomenon was noticed: as the left eye had become prominent, the hairs of the eyebrow, all the eyelashes of the lower lid and the inner two-thirds of those of the upper lid, had slowly disappeared. In October, having derived no permanent benefit from any kind of medical treatment, she went to Ramsgate for a fortnight, and was greatly benefited by the change. The left eye was still very prominent, and the thyroid body (right lobe) hard and enlarged. Having regard to the hardness of the thyroid tumour, some iodide of potassium was given internally, and rubbed in externally with temporary benefit. The pulse fell from 132 to 112, the thyroid enlargement lessened, and the general health improved. In November all the symptoms became aggravated, and diarrhœa troublesome. A systolic murmur over the base and along the carotids became now audible. She again took digitalis without any effect. The systolic murmur became louder and more distinct, and was heard on December 11th all over the cardiac area. It was now noted that the right eye had become somewhat prominent, simultaneously with some enlargement of the left lobe of the thyroid. Since the right eye had been getting prominent the hair of the eyebrow and the eyelashes on that side have been disappearing. Latterly the patient had been getting worse, the exophthalmos and cachexia more marked; diarrhœa, perspiration, and fatigue on the least exertion, with arrest of the catamenia during the last three months. The pulse ranged from 112 to 130; there was some cough, with sanguineous expectoration. An ophthalmoscopic examination by Mr. Soelberg Wells showed the fundus of the eye to be quite healthy. Mr. Wells called attention to the retraction of the upper lid, due to irritation of the unstriped muscular fibres of Müller, which are supplied by the sympathetic. After introducing another patient with unilateral exophthalmos, Dr. Yeo called the attention of the Society to the following considerations:—1. The order of evolution of the phenomena. He doubted the correctness of the assumption that the cardiac excitement usually preceded, or had any causal relation to, the exophthalmos or the goitre. In the case shown the exophthalmos appeared to have preceded the palpitation by a considerable period. He believed they were effects of a common cause. 2. The occurrence of unilateral exophthalmos, as well as unilateral enlargement of the thyroid. 3. The remarkable fact of the shedding of the hairs of the eyebrows and eyelids coincidently with the protrusion of the eyeballs, and the peculiar crossed manner in which the phenomena were developed. 4. The tendency to regard too exclusively the local phenomena of the disease, to the neglect of the more widely diffused manifestations, such as the constantly recurring diarrhœa, the profuse perspirations, and paresis of cutaneous vessels, and the general mobility and irritability of the nervous system. From these and other considerations Dr. Yeo argued in favour of a central nervous lesion as the pathological basis of the phenomena.—Dr. GREENHOW had observed a similar falling off of hair in a case of the disease which was under his care. The patient (a lady) lost nearly all the eyebrows and eyelashes during the course of the disease. She attributed this to the profuse sweating which had preceded it. He had observed also the partial or unilateral character of the disease in some cases, though not in a crossed manner. The right lobe of the thyroid was often enlarged before the left, and in a greater degree. This he had seen in two or three cases. The exophthalmos might also be greater on one side; in this lady it was greater on the right than on the left side, one eye being capable of closure some time before the other; but in all the cases this preponderance of symptoms was on the same side, usually the right. For treatment he had employed in this case all the usual remedies, and at last gave iodide of potassium in five-grain doses, with half a drachm of syrup of iodide of iron, with the most beneficial results. Change of air, first at Margate and then at Schwalbach, also had a great deal to do with the cure. The origin of the disease seemed in nearly all cases to be traceable to a mental shock: in one case the sudden loss of three children from scarlet fever, in another hyperlactation, and in another some other mental shock of severe nature was followed in a comparatively short time by symptoms of the disease, the exophthalmos being the thing first noticed usually by the friends of the patient.—Dr. THEODORE WILLIAMS had had three cases under his care, one of which, in some degree, resembled one of those brought before the Society by Dr. Yeo. The treatment which he adopted was, however, a different one. He had given tincture of perchloride of iron in doses of 15 to 40 minims with decided improvement, the pulse becoming slower, and the ocular protrusion less marked. But the greatest benefit was derived from change of air; he sent the patient to Norwood, believing that a cold dry climate was the most beneficial in such cases. He thought iron very valuable in the treatment, although its employment was discredited in textbooks.—Mr. CASSON having seen a good deal of common goitre—"Derbyshire neck"—had been led to doubt whether exophthalmic goitre was any more than a variety of that disease. In some cases he had seen marked nervous symptoms associated with ordinary bronchocele. He mentioned in particular the case of a man with a very large cystic bronchocele, who suffered from flushings, frequent perspiration, and a tendency to faint from slight causes—in fact, a general hysterical condition. There was also some exophthalmos. An attempt at suicide by cutting his throat made a deep gash into the tumour, producing profuse hæmorrhage and evacuation of some of the cysts, and the tumour subsequently disappeared, and with it the exophthalmos. He believed that an anæmic and hysterical condition was often found in ordinary goitre, and that iron and iodide of potassium were of the greatest use in its treatment.—Dr. BURNEY YEO, in reply, said that he ascribed the origination of the disease in the first case to the confinement and the attack of fever. The crossed character of the affection was well marked; he only threw it out as a suggestion that it might indicate a central origin for the disease. With regard to the employment of iron and of iodine, he was glad to find that they were approved, for both were denounced by authors in this affection. One difficulty in the employment of some drugs which were believed to be beneficial was the tendency to aggravate the diarrhœa, which in some cases formed such a troublesome complication. In some cases, digitalis, belladonna, and iron all aggravated the diarrhœa. A change of air and scene was no doubt the first remedy, this being indicated by the general nature of the disorder. Another case had derived great advantage from going to Brighton. He expressed his astonishment that anyone should express the opinion that ordinary bronchocele and exophthalmic goitre were at all identical.—Dr. GLOVER observed that, with reference to the loss of hair, the condition was not confined to the left eyebrow, but the patient said she had also lost the hair from the right axilla and the right arm.—Dr. YEO had not been informed of this before by the patient.—Mr. CALLENDER, in reference to the point under discussion, mentioned the case of a gentleman who came to him in great distress for the loss of one half of his moustache. Subsequently the other half and the beard and whiskers also fell off.

Dr. THEODORE WILLIAMS exhibited a patient in whom a cavity, sufficiently large to give rise to metallic tinkling, was undergoing, or had undergone, contraction. The patient, who was a middle-aged man employed in a foundry, had hæmoptysis ten years ago, followed by symptoms of phthisis. Three years ago a tinkling cavity was detected in the upper part of the right lung. Since that time he had gained flesh, the cough had diminished, and he had been able to do some work. He had been readmitted to Brompton in December, 1876, and the physical signs seemed to indicate that the cavity had considerably diminished in size, the whole of the right chest being also contracted to some extent, and the neighbouring organs displaced to a corresponding degree. The general health was improved. Dr.

Williams remarked that he believed that the contraction of an amphoric cavity was a very rare occurrence, and that this was a good example of the various changes which occurred secondarily to the contraction.—Dr. BURNEY YEO mentioned a somewhat similar case which had been under his care some time ago, the improvement occurring under simple general treatment.

Mr. RICKMAN GODLEE read an account of three cases of Gas in the Peritoneal Cavity without Perforation of the Bowel. He observed that the condition found in them was one which was not mentioned in text-books or generally recognised; and although the possibility of its occurrence was allowed by some, it was not universally so. Its importance was nevertheless great to the surgeon, especially in the operation of colotomy, and its recognition might be of value in other cases. The first case was that of a man forty-six years of age, who was in University College Hospital in 1872. He had had dysentery and syphilis, and was now suffering from phthisis, with lardaceous liver and ascites. The abdomen was considerably distended, and there was movable dulness in both flanks and in the lower part of the abdomen, as high as midway between the umbilicus and pubes. The enlarged liver could be easily felt, reaching down to within one and a half inches of the umbilicus, but the area corresponding to it had a tympanitic resonance, except quite at the upper part. It was only on pressing the finger through the tympanitic region that the liver could be felt, and then a dull percussion note was obtained. At the autopsy no bowel was found superficial to the liver. There were several ulcers in the colon above the sigmoid flexure, but no perforation. The condition of the peritoneum was not noted. The second case was that of a woman sixty-one years of age, with obstruction of the bowels due to tumour. The obstruction had been complete for three weeks. There was great abdominal distension and constant vomiting. Colotomy was performed by Mr. Heath. A protrusion of the peritoneum, distended with gas, made its appearance in the wound, and was thought to be the colon, but as it did not look natural, another search was made, but nothing to represent the bowel could be found. After a consultation, Mr. Heath passed the needle, and then punctured what proved to be the peritoneum. After the escape of gas and a little grumous fluid, the distension subsided, and the bowel was easily found and opened. The patient died, and, post mortem, no perforation of the bowel could be found, although carefully searched for. There was slight general recent peritonitis, and a little rather older lymph round the cæcum, corresponding to an ulcer as large as a threepenny piece, filled with slough, in the mucous membrane. The bowel at the seat of stricture was entire. The third case was that of a lady seventy-two years of age, in whom Mr. Heath performed colotomy for obstruction of three weeks' duration. In this case also a knuckle of peritoneum distended with gas, and containing also a little clear fluid, presented, but the intestine was found and opened. The patient is now, four weeks after the operation, alive and well, so that it is safe to conclude that no perforation existed. Mr. Godlee thought that osmosis would probably account for the condition observed, which was especially important as liable to present itself at the operation of colotomy.—Dr. CAYLEY mentioned the case of an elderly woman who was greatly emaciated, the abdomen blown out, it was thought, by distension of the bowels with gas, and the symptoms also pointed to an obstruction of the colon at the commencement of the sigmoid flexure. Colotomy was performed; there was a rush of gas on opening what was thought to be the bowel, and it turned out to be from the peritoneal cavity. The woman died shortly after the operation, and extensive cancer of the bowel and peritoneum was discovered, but there was no peritonitis, and no perforation of the bowel could be detected. The gas which escaped was not at all fetid.—Mr. HEATH observed that it was a point of practical importance in such cases that the distension was uniform, not as when the coils of distended intestine could be perceived through the abdominal wall. In the third case mentioned by Mr. Godlee he performed the operation on the right side, in consequence of the difficulty in diagnosing the seat of the stricture. The best way of discriminating the peritoneum thus distended with gas from the bowel was by direct sunlight, the difference in appearance being at once observed.—Mr. MAUNDER said that those who might be called upon to perform colotomy would be grateful to Mr. Godlee for the hint afforded by the relation of his cases. His explanation of the presence of gas in the peritoneal cavity was doubtless the correct one. The same explanation was probably applicable to cases of abscess seated near the intestinal tube, whether about the rectum or appreciated through the anterior abdominal wall, which sometimes contained gas, which, by rendering it tympanitic, afforded a possible source of error in diagnosis. With regard to Mr. Heath's suggestion that the drum-like condition of the belly might be regarded as diagnostic of gas in the cavity, Mr. Maunder thought that this condition could not be looked upon as characteristic, the condition of the abdominal tension varying so much in different cases, and even at different times in the same case. In his last colotomy case the small intestines were at first remarkably visible through the abdominal wall, but later, when the patient had consented to the operation, the surface of the abdomen was so tense that the state of any organ within could not be determined.

Mr. B. THOMPSON LOWNE read an account of a case of Neuro-Retinitis in one Eye, followed by partial atrophy of the optic disc, and accompanied by colour-blindness, with some observations on the perception of colour. The patient was a young lady eighteen years of age. The cause of the attack was unknown; it was announced by pain over the brow and some impairment of vision, but there were no haloes or spectra. When first seen there was a dark cloud on the greater part of the field of vision of the right eye; she could only see indirectly, and with the outer half of the retina. There was no increase of tension. She could only read Jaeger 20. With the ophthalmoscope the disc was congested, and there was ecchymosis around it, and also dots and irregular patches around the yellow spot. The left eye normal; vision good. Twelve days later the sight of the affected eye was worse, the disc swollen and hazy; there were large white spots and patches around the disc, and scattered over the fundus in the neighbourhood of the vessels. A few days later the sight was improved, but colour-blindness was observed, only green being perceived, not red. The sight improved rapidly, and the patient began to see with direct vision, the exudation patches rapidly clearing away, and signs of slight atrophy appearing. Some diminution of vision still persists, four months from the onset of the attack, the patient reading 20 Jaeger at fourteen feet, and the colour-blindness also being partially persistent. Mr. Lowne discussed the probable cause of the lesion, and hesitated to give any positive opinion upon the question. He analysed also the condition in respect of colour-blindness, and pointed out that the condition in this case resembled that in congenital Daltonism as to the red end of the spectrum, but differed in that there was no increased power of perception of the violet end.

MEDICAL SOCIETY OF LONDON.

THE new session of this Society was opened, under the presidency of Dr. Buchanan, who delivered a short and appropriate address on taking the chair. The adjourned discussion on Dr. Edmunds' paper on Vegetarianism then took place. The first speaker, Dr. Lawson, objected to Professor Newman, Mr. Maitland, and Mr. Sibley being examples of pure vegetarianism, as they were all partakers of animal food in the shape of butter, eggs, and milk; they were non-flesh-eaters. Drs. Routh, Drysdale, and Griffiths also took part in the discussion, and protested against vegetarianism. Sir Joseph Fayrer related his experience of the effects of this diet among the natives of India, and said he had no doubt that people could live on vegetables alone. He had seen some of the finest specimens of the human race, as regards strength, power of endurance, and physical development, among the inhabitants of the N.W. provinces of India, who were pure vegetarians; but he accounted for their condition from the fact that their food consisted chiefly of leguminous seeds, such as peas, beans, and the like, which contained a larger amount of nitrogen than other vegetables. The President summed up the discussion, saying that Dr. Edmunds had, in his paper, made out a case for the trial of a vegetable diet under certain circumstances, and the points to be considered more especially

were (1) age, which was a considerable element, as no doubt people advanced in years appear to thrive on a vegetable diet, whereas children require almost a pure animal diet. Again, climate was a great factor; and in the treatment of disease it could be strongly advocated; while, lastly and chiefly, temperance must be enforced, avoiding excess in the use of animal food, and taking, in fact, a middle course.

The tenth anniversary dinner of this Society was held on Thursday, March 8th, 1877, at the St. James's Hall Restaurant, at 7 P.M.; Mr. Wm. Adams, President, in the chair. Eighty-five fellows were present, and amongst the visitors were Dr. Risdon Bennett, Dr. West, Mr. Callender, Fleet-Surgeon Belgrave Winnis, and Major Duncan. The dinner was well arranged, and the toasts judiciously curtailed. The Fothergillian gold medal was presented by the chairman to Dr. Peter Braidwood, and the silver medal of the Society to Mr. Richard Davy.

ASSOCIATION OF SURGEONS PRACTISING DENTAL SURGERY.

AT the meeting of this Society on Feb. 28th, Mr. S. J. A. SALTER read a paper "On certain Ethical Questions involved in the practice of Dental Surgery." Having expressed some doubt as to the exact applicability of the title of his paper to its real subject matter, the author apologised for having to bring before the Association particulars of a case in which he was personally concerned, and in which legal proceedings had been initiated against him by a patient through the misrepresentation of another. The accusations were mainly that he had induced an attack of acute mania by the misfit of artificial teeth, and that the unnatural pressure had produced underhung jaw. The former he considered too absurd for refutation, and the latter was completely upset by models of the mouth which Mr. Salter had preserved, taken before and after the use of the artificial teeth. Mr. Salter strongly urged the unfairness of judging of cases *ex post facto*, and without knowing the antecedent condition of the patient and all the surrounding circumstances which led the now-blamed practitioner to act as he did. That the second attendant had the unfair advantage of knowing what may have failed, while the previous treatment itself destroyed much of the evidence of the antecedent conditions. Without in any way attempting to palliate the malpraxis, or to protect the practitioner from its consequences when it really occurred, he would urge that in all cases the medical or surgical witnesses on both sides should confer together, and also with the professional defendant before going into court, so as to ascertain, as far as possible, the whole of the original facts, and not be guided by one-sided and partial information. He would have it held that a professional man giving evidence in a court of justice without thus endeavouring to obtain a full knowledge of the truth, should be deemed to have committed a gross breach of professional decorum; and the author expressed a belief that if some such practice as this were adopted, trials with medical men as defendants would be almost put an end to.

In the ensuing discussion, in which the President, Messrs. Coleman, Napier, J. H. Cartwright, Stevenson, Cattlin, Edgelow, Winterbottom, and Parkinson took part, regret was expressed that there were so many persons who assumed the title of "Dentist," who, being wholly unqualified, were bound by no recognised code of honour, and were amenable to no definite laws of etiquette, showing the necessity of dental surgeons possessing some medical or surgical diploma. The author's suggestion that in all trials in which medical testimony was given, those rendering it respectively on behalf of the plaintiff and defendant should primarily confer together, was cordially approved. Several examples of breaches of etiquette were brought forward, and the members of the Association pledged themselves to arrest such unprofessional conduct as far as lay in their power. The discussion was the means of eliciting some important ethical questions in relation to the treatment of patients coming by chance into the hands of others than their ordinary attendants, and two important motions, proposed by Mr. S. J. A. Salter and Mr. A. Coleman, were unanimously carried.

THE UNITED STATES ARMY MEDICAL SERVICE.

WE are enabled to place before our readers some particulars regarding the strength, organisation, and regulations affecting pay and position of medical officers of the United States Army that cannot fail to be interesting at the present time.

By Acts of Congress, approved in 1874 and 1876, the medical department of the army is to consist of one surgeon-general; one assistant surgeon general; one chief medical purveyor; four surgeons, with the rank, pay, and emoluments of colonels; two assistant medical purveyors; eight surgeons, with the rank and pay of lieutenant-colonels; fifty surgeons, with the rank and pay of majors; 125 assistant-surgeons, ranking as lieutenants of cavalry for the first five years' service, and with the rank, pay, and emoluments of captains of cavalry after eight years' service. Candidates for appointments in the Medical Corps must be between twenty-one and twenty-eight years of age, graduates of a medical college, and prepared with evidence of having received a thorough medical training. They have to appear before a medical examining board, which, besides testing their physical qualifications, reports as to their preliminary education, knowledge of general literature and science, and more especially as to their medical and surgical skill and acquirements, and their acquaintance with those branches of science collateral to medicine. The examination resembles in this respect that pursued in the British service.

The rank of a medical officer in the U.S. Army is actual, not assimilated rank; but outside of hospitals a medical officer never takes command of enlisted men, and if a surgeon with the rank of a field officer were present at a small post commanded by a second lieutenant, he would, as a matter of course, have to report to that lieutenant for duty. In a general hospital, however, the medical officer is supreme, and any officers doing duty therein, as hospital quartermasters, commissaries, &c., would have to report to him. Medical officers are often placed on boards or courts-martial, taking their place according to their rank; but the medical officers do not desire such duties, and where there is the requisite number of officers without them for a court-martial, it is not usual to put a medical officer on it. Still, the military rank in this particular is absolute and not relative, and the same is the case with regard to the choice of quarters, except that the commanding officer of a military post, be his rank what it may, has invariably the first choice. The following table exhibits the relative rank and pay of medical officers of the U.S. army:—

	Annual Pay. Dollars.
Surgeon-General (Brigadier-General)	4500
Assistant Surgeon-General (Colonel)	3500
Chief Medical Purveyor (Colonel)...	3500
Surgeon (Colonel)	3500
„ (Lieutenant Colonel)	3000
„ (Major)	2500
Assistant-Surgeon (Captain)...	2000
„ „ (First-Lieutenant)... ...	1600

Assistant-surgeons have the rank of first lieutenant, and after five years' service that of captain of cavalry. The pay of all officers under the rank of brigadier-general is increased 20 per cent. after ten years, 30 per cent. after fifteen years, 40 per cent. after twenty years, and 50 per cent. after twenty-five years' service; but the maximum pay of a colonel is not to exceed 4500 dollars, and that of a lieutenant-colonel 4000 dollars. It will be seen that there is nothing extravagant as regards the military rank or pay of the different grades of medical officers, and that the Medical Corps of the United States army is a small one—in fact, a nucleus for organisation; but we have the authority of a distinguished member of it for stating that it is capable of being expanded very rapidly, and that, in his opinion, it could be made ready to take charge of a million of men as quickly, or even quicker than any other department. We may add that the medical officers are liked and respected by the officers of their departments, and socially and intellectually are on an even footing with them, while the results are good both for the army in general and for the medical department in particular.

THE LANCET.

LONDON: SATURDAY, MARCH 17, 1877.

IT is time to speak out plainly on the subject of hospital maintenance. Whether the method of appealing to the public for aid now generally adopted is the most successful, or whether better measures could be devised, it is beginning to be apparent that unless more sympathy, expressed by larger and more regular contributions, can be elicited, the relief now accorded to the suffering poor must be curtailed, or its efficiency considerably impaired. This is a gloomy foreboding, but it is forced upon us by the pressing need of almost all except the few largely endowed charities which, while excellent as agencies of public usefulness, are not directly dependent upon public support. Everything in the shape of charity in this spirited but withal impulsive country is left to chance. Benevolence will scarcely even brook counsel as to the channels through which its alms may be most advantageously distributed. Strongly-pleaded causes are discredited by the excess of advocacy. Philanthropy affects eccentricity in the scattering of its favours, and in the general result those institutions which have the least urgent necessity are the recipients of the largest aid, while those whose very existence is imperilled by poverty are overlooked.

The condition of matters would be much improved if it could be clearly impressed on the national conscience that occasional contributions to the hospital fund will neither suffice to satisfy the obligation of justice and gratitude which holds the community bound to support these institutions, nor enable them to stand, as now, between the sound and the sick, staying the plague of disease, and averting no small share of that incubus the disablement of bread-winners must throw on the healthy and active population. It is no mere sentimental service these medical charities render the country, but a work capable of being estimated in hard money value, recouping every pound bestowed in the shape of bounty. If the financial burden of unhelped sickness and injury could be put in one scale, and the sum total of contributions made to the institutions which minister to the medical and surgical necessities of the industrial population deposited in the other, the balance would tell a tale of economy and prudence by which the least compassionate citizen could scarcely fail to be convinced. We do not beg for the boon of public support; the full help needed may be claimed as a suit and service to humanity and the wage of good work done honestly for the public advantage—a recompense which barely recoups the outlay, and neither requites nor recognises the toil. It has sometimes been half hinted that in urging the support of hospitals the medical profession pleads for itself. This is a wholly groundless and mistaken view of the subject, which we mention only to repudiate. Medicine has been and is the pioneer in this enterprise for the mitigation of human suffering; the charity of the lay public is indispensable to the extended exercise of medical relief. But the two forms of philanthropy labour hand in hand, and it is not only permissible, but seemly, that one should strive to stir the heart of the other to greater sacrifices and more sustained and systematic benevolence.

The subject bespeaks earnest attention. There are no compulsory or even customary contributions to hospital support in this country. All the aid received is the outpouring of spontaneous goodness. This circumstance doubtless makes the gift peculiarly acceptable, but it should not be forgotten that it neither enhances its market value nor qualifies the urgency of the demand. Moreover, there is this drawback to the method, that whereas other exercises of benevolence are susceptible of influence by special appeal, the plea for hospital aid is continuously before the public, monotonous in its appeal, and admits of no sensational enforcement, let the pressure be what it may. Famines, devastation, calamities of all classes, abroad and at home, interpose between the generous hearts of the wealthy and this ever-present need; the familiar claim is put on one side, and the exceptional supplicant preferred. In plain truth, the chances are year by year many to one against the most pressing and grave object of charity receiving the attention it deserves and its condition requires. And now something like a crisis in the history of our hospitals has occurred. Is there any solid ground to hope the emergency will secure due consideration? Many causes have combined to create the financial difficulty through which several of the large hospitals, with small or no endowment funds, are now passing. Prominent among the sources of embarrassment have been the diversion of charitable donations into wrong channels, and a certain sluggishness in the current of benevolence which it is difficult to explain. Objects of interest abroad have unduly distracted attention from the need of the sick poor at home, and the shoal of well-intentioned, but needless and useless, institutions with special objects have diverted no small share of the charity designed for general hospitals.

It is necessary to put aside any feeling of delicacy on this point, and say plainly, the public must not forget that by multiplying and encouraging the increase of small hospitals and dispensaries professing to minister relief to special diseases, they are paralysing the enterprise of the old-established hospitals, which have already provided, or are organising, departments for the treatment of those special maladies which it is expedient to treat apart. The advantages of dealing with the needs of patients suffering from special diseases at general hospitals must be apparent. The local affection is made the subject of peculiar attention, while the patient is retained under observation in relation to general disease, which, more commonly than not, is the efficient cause of the special manifestation. Special hospitals are, as we have said, useless, and they are mischievous. They divert contributions from general hospitals with special departments, and impair the usefulness of these great charities, seriously limiting the return made to generous donors for the funds bestowed. With the causes which have impeded the flow of benevolence we will not concern ourselves further than to remark that if the infatuated energy of a clique intent on maligning the practitioners of medicine by imputing to them

generally the exaggerated stories of excess in research recounted of a few, has exerted any baneful influence, the inference would be less creditable to the heads than the hearts of English philanthropists. The supposition is too uncomplimentary to entertain. Those who would excuse themselves from the obligation to support historic hospitals on the plea that some medical explorers may have been less careful than humanity dictates in the investigations carried on among the lower animals for the relief of man, can scarcely have been warm sympathisers with human suffering, and by their pretended defection from the ranks of hospital supporters the sick poor have probably lost less than the "anti-vivisectionists" pretend. It was needful to notice this humiliating topic, but we turn from it with relief. The pleas for neglect of duty were manifold and sufficiently discreditable before this paltry subterfuge was devised.

On the highest, the broadest, the most pressing, grounds we base the appeal for help for the sick poor. A warning cry of distress reaches us from quarters where it may be supposed no urgent need is experienced. It is scarcely too much to say that, with the exception of two or three of the largest hospitals which are richly endowed, the institutions in and about London are crippled for lack of an income which a very little organised effort should secure. We venture to commend the emergency with earnestness to the consideration of all classes of the community; first, to contribute at once to the relief of necessities which admit of no delay, and, secondly, to make an addition to the present income of these charities commensurate with the claims they possess on public confidence and support, and without which even their present measure of usefulness must be seriously and speedily curtailed.

THE serious epidemic of typhoid fever which existed in Paris last year, and which reached its height in the month of November, has had the effect of drawing professional attention in France more earnestly to the questions concerned in the origin and treatment of the disease, and the epidemic illustrates several points of considerable interest to which it may be worth while to direct our readers' attention.

The statistics of the epidemic have been collected with much care by M. ERNEST BÉHIER. The mortality from typhoid in Paris during the year was more than double that of any previous year since 1867, and nearly half the cases occurred during the last two months. The mortality during the last quarter of the year (1645 deaths) was just three times the average mortality from typhoid during the same period of the four preceding years. Calculating the average mortality of typhoid as 20 per cent., this number of deaths would correspond to a proportion of those attacked to the population of 1 in 200. But the severity of the epidemic, as estimated by the mortality, was less during the last quarter of the year than during the preceding three months. During the former it was 25 per cent., during the latter 35 per cent. In this it corresponded closely with the law which has been frequently observed. The average mortality of the seven preceding years was 6 per cent. less during the fourth than during the third quarter of the year. The epidemic of 1876 was, however, much above the average in severity, the deaths having been in excess of the average from 6 to 9 per cent.

The relation of sex to mortality during this epidemic has been in curious accordance with the common experience at Paris. It corresponded almost exactly with the average for four preceding years—viz., 51·6 per cent. were those of men, and 48·4 of women. A more careful examination of the statistics of the numbers attacked, however, shows that the apparent equality of the sexes is not real. Out of a total of upwards of 5000 patients, it was found that the proportion was very nearly two men to one woman. In early life the numbers attacked are more nearly equal, 53 per cent. of boys to 47 per cent. of girls. In the recent epidemic women have been attacked more frequently than usual. In the civil hospitals 59·5 per cent. of the patients were men, and 40·5 were women; while in children the average was nearly maintained, 53·4 of those attacked being boys, and 46·6 girls.

It is obvious that the mortality represents a greater equality between the sexes than do the numbers attacked, and therefore that the mortality in women must be greater than in men. The average mortality has been calculated for men as 20 per cent., for women 24·14; for boys 14·4, for girls 18·73 per cent. In the recent epidemic the average mortality for men was 24·4 per cent., for women 27·8; for boys 10·9, for girls 20 per cent. Thus the greater proportion of males attacked, and of women succumbing to the disease, is very strikingly shown.

The influence of occupation on the origin and course of typhoid fever is probably exerted by determining exposure to the exciting causes of the disease. This is no doubt one explanation of the fact that domestic servants contributed a larger proportion than any other class. Servants spend much time in the basements of houses in the closest proximity to drains; their waterclosets &c. are often of the most insanitary character, and they are, moreover, exposed to other debilitating influences. The slight contagiousness of the disease is well illustrated by the fact that the attendants on the sick furnished only 11 patients out of a total of 2315. In the Children's Hospital no case of transmission by contagion was observed, although one-third of the patients were at times cases of typhoid, and they were distributed among patients suffering from other affections.

The attention which has been drawn by the epidemic to the subject of the treatment of typhoid has led to the publication of some observations of considerable interest, extending over a longer time. A foremost place must be given to the statistics of M. FÉRÉOL, who has recorded the results of the treatment of 38 cases by cold baths. These were the severest cases out of a total of 153. Of the 38, 12 died, 26 recovered, whilst 10 died out of 24 severe cases treated by ordinary methods. He corroborates the statements of BRAND and others as to the impunity with which the cold-bath treatment may be adopted, even in the presence of serious complications. Neither hæmoptysis nor pulmonary affections were regarded as contra-indications, but it would seem that a tendency to hæmoptysis was increased by the treatment. No case of perforation occurred among those so treated. M. FÉRÉOL does not believe that in a single fatal case death was to be attributed to the bath. The indications on which the baths were administered were hyperpyrexia, delirium, carphology, and extreme frequency of the pulse. Cases exhibiting the latter phenomenon seem to have received less

benefit from the cold bathing than other cases. The total mortality of all M. FÉRÉOL'S cases, the baths being administered on the above-mentioned indications, was about 19 per cent. M. RAYNAUD'S experience of the same system has been somewhat more favourable. During the last three years the mortality of his cases has been 14 per cent. The variations in the mortality in different years, and the danger of hasty conclusions from limited observation, are shown by the statistics of M. MAYET, whose mortality in three successive years was 9·3, 17·6, and 18 per cent. respectively. It will be remembered that the average mortality of typhoid in England, on old-fashioned treatment, according to the Fever Hospital statistics, was only 17 per cent., including moribund admissions and deaths from sequelæ. The average mortality in Paris has, however, usually been higher than this.

During the recent epidemic, the results of this treatment have been favourable, having varied at different hospitals in which the cold-bath treatment was tried from 6 to 15 per cent. Before drawing any inference from these figures, it must be remembered how much epidemics vary in severity, and the recent outbreak appears on the whole to have been mild in type. The early cold weather rendered pulmonary complications more than usually frequent, and the fear of producing or increasing them seems to have deterred many physicians from employing this method of treatment. This is a fear which the German and many French advocates for this method of treatment have declared to be groundless, but it is a fear which familiarity with the method does not seem in all cases to dispel. M. FÉRÉOL noted, as we have said, an apparent increase in the attacks of hæmoptysis, and M. RAYNAUD believed that both congestion of the lungs and actual pneumonia were caused by the treatment. Attention has been called to another possible danger by M. LIEBERMANN in a paper on the effect of the cold bath on the laryngeal complication of typhoid. Aphonia is, according to him, in some cases due to paralysis of the adductors of the vocal cords, and this condition was improved by the treatment. Catarrhal laryngitis was uninfluenced by it. On the other hand, in three out of five patients who died after cold bathing, the cause of death was laryngeal ulceration, œdema, and diphtheria. In the case of ulceration, the aphonia was more considerable each time the patient came out of the bath, and death ensued with all the symptoms of laryngeal perforation.

Milder methods of lowering the temperature of the body have been advocated as possessing some of the advantages without the unpleasant conditions of the cold baths. M. ARCHAMBAULT, of the Children's Hospital, has called attention to the advantages of the old method of frequent cold sponging, and the employment of tepid baths of a temperature of about 90° F. has been advocated by M. DUJARDIN-BEAUMETZ. He maintains that the effect of these baths on the temperature is as good as that of the cold baths, if less rapid, and that their employment is free from the inconveniences and dangers of the more heroic method, but he does not bring forward any new evidence of their utility. Lastly, we may signalise, as an example of much that should be avoided in the treatment of typhoid, the system on which M. MARTINEAU apparently prides himself. This method of "conducting" typhoid fever consists in the administration, at the commencement of the illness, of a purgative or an emetic, according to the "state of the stomach," the application of vinegar to the abdomen, and an enema of cold water of chamomile or guimauve every night and morning. For hyperpyrexia he does not use the cold bath. Intestinal hæmorrhage is treated only with subnitrate of bismuth. Pneumonia in typhoid he treats by wet cupping, removing from 60 to 200 grammes of blood, and follows the cupping by blisters, and the administration of tartar emetic. It is not surprising that on this treatment M. MARTINEAU has lost 10 out of 31 cases, and that of these six died from peritonitis. He records, as characteristic of the epidemic, the frequency of pleuro-pneumonia, peritonitis, and endocarditis.

IT is gratifying to learn that when the report of the Committee on the Regulations relating to the Education and Examination of Candidates for the Diploma of Fellow of the Royal College of Surgeons of England was brought forward at the last meeting of the Council a numerously-signed memorial was presented objecting to the sixth section, or that relating to the examination of Members of ten or more years' standing. Within a few days the signatures of no less than 309 influential Fellows were obtained to this memorial, and there are reasons for believing that if time had allowed the number would have been much greater. Indeed, the proposed alterations in the regulations were so flagrant and unjust that it is difficult to conceive in what manner they could have met with the approval of any of the Fellows, or even of any of the Members who had any regard for the interests of surgical education in this country. The grounds on which the memorialists based their objections to the projected changes may be ascertained from a perusal of the memorial, a copy of which was printed in this journal a fortnight ago. But the memorial did not go far enough. There is quite as much objection to abolishing the six years' curriculum for Members of less than ten years' standing as for those of more than ten years' standing, if not more. None of the arguments that have been adduced in favour of the alterations have any real value, and are certainly inadequate. It cannot be denied that there are many members of the College who, although distinguished in the various departments of scientific and practical surgery, are precluded by the old regulations from the Fellowship; but it does not require much perspicacity to see that they are precisely the persons who will be neither benefited nor honoured by the alterations. It is neither complimentary nor courteous to any Member who may have achieved a reputation as a surgical practitioner to offer him the highest surgical qualification in this country on such undignified terms as those which the new regulations propose. If such persons really merit the distinction, it would surely be more gracious to give it to them than to ask them to submit to a disparaging examination. Still less desirable is it to hold out inducements to younger men to shirk the labour and the responsibilities of complying with the requirements of a six years' curriculum.

If we consider that no one can obtain the Fellowship before the age of twenty-five it would be no hardship for those who have not complied with the six years' regulations

to wait until they had been members for ten years before being allowed to present themselves at the second professional examination for the Fellowship. For such persons a modified examination in Anatomy and Physiology might fairly be devised, but the second examination in Surgery, Surgical Anatomy, and Pathology should be as stringent for them as for those who have passed through the regular course of study at a medical school. Without wishing to interfere unnecessarily with the action of the Council, we would suggest some such basis for deliberation on the 22nd inst. Such an arrangement would, we venture to believe, be calculated to stimulate the more ambitious members to seek the diploma of Fellow, and would be free from many of the disadvantages which would follow the adoption of the alterations proposed by the Committee.

NUMEROUS as have been the researches made during the last few years to determine the functions of the encephalic centres, few experimenters have directed their attention to the influence exerted by these centres on the unstriated muscles generally, and especially upon the heart. This omission is now to some extent supplied by the labours of M. LOUIS COUTY, who has adopted the plan of cutting off the supply of blood more or less completely from the brain—a method that he considers combines the advantages of ablation, destruction, isolation, and stimulation, which constitute the other methods in common use.

The simplest method of effecting this arrest of the supply of blood to the brain, and the one that naturally suggests itself to every anatomist, is the application of a ligature to each of the carotids and vertebral arteries. The experiments of Sir ASTLEY COOPER, however, together with those of JOBERT and others, have shown that the circulation becomes even then in some instances permanently re-established by the anastomoses occurring between the ascending cervical, œsophageal, profunda cervicis, and other arteries, with the spinal arteries, and that in consequence the functions of the brain are sometimes recovered and life preserved. Hence no conclusion could be drawn in regard to the result of the abolition of the influence of the brain on the muscles of organic life, since it was impossible to tell whether its influence had been abolished by the application of the ligatures.

The plan adopted by M. COUTY was more effective, and consisted in the introduction, into any one of the arteries, of air, or more commonly of the powder of lycopodium spores, the particles of which are too large to traverse the capillaries, and hence effectually arrest the circulation through the brain. The animals were always dogs, and were placed under the influence of woorara, to avoid the disturbing action of convulsive movements. Artificial respiration was always maintained. The lycopodium spores were suspended in about fifteen to eighteen centimetres of ordinary water, the whole of which was injected at once. The effects produced were remarkable. The encephalic circulation was at once and everywhere arrested. Coincidently the tension of the blood rose within a minute or two from 8 centimetres of mercury to 22, or even more, whilst the pulse fell from 220 to 50, and then rose to 70 per minute, the amplitude of the tracings undergoing great augmentation. In regard to the other organs, the spleen was diminished in size from one-third to two-fifths, but neither the stomach, the intestines, the bladder, nor the iris, appeared to undergo any marked change. Differences were observed in the succession of phenomena connected with the heart, according to whether the obstruction caused by the lycopodium spores was limited to the region supplied by the carotids, or affected the whole encephalon, or the whole encephalon with the cervical portion of the spinal cord. In all instances the first effect of the deprivation of blood was that of an excitant to the grey matter. In the first case the action of the heart was slowed, showing that the brain is an inhibitory cardiac centre; in the second case the heart was slowed, but the pressure of the blood was greatly augmented, showing that the mesocephalon contains vaso-constrictor elements irregularly distributed through its substance; and in the last case the augmentation of pressure was considerable, and the beats of the heart were almost from the outset accelerated. M. COUTY satisfied himself that the encephalo-cardiac or accelerator nerves contained in the cervical portion of the pneumogastrics issue from the cord by the second and third pairs, and enter the spinal accessory nerve first, whilst the encephalo-vascular or pressor nerves arise from the mesocephalon, and pass, perhaps, into the vago-sympathetic nerve, perhaps into the glosso-pharyngeal nerve; so that the vaso-motor nerves do not, as SCHIFF supposed, all emerge by the cord; and the preservation of either of these sets of fibres is sufficient to determine differences of tension varying from ten to twenty centimetres.

When the primary effects of excitation produced by the anæmia have passed away paralytic phenomena supervene, which may be divided into a period of encephalic paralysis inducing progressive diminution of blood-pressure and accelerated action of the heart, and a period of medullary paralysis occurring thirty-five to fifty minutes after the obstruction has been complete, in which the arterial tension falls to zero, and the blood is gradually brought to a stand-still throughout the system. At this period the respiration ceases, and, with the occurrence of the phenomena of asphyxia, violent and persistent excitation is observed of the stomach and intestines, which previously remain unaffected.

Annotations.

"Ne quid nimis."

ARTERIO-CAPILLARY FIBROSIS.

AT the meeting of the Pathological Society on Tuesday next Dr. George Johnson is to exhibit specimens showing the changes which occur in the muscular walls of the arterioles in chronic Bright's disease. He cannot fail to revert to the subject which formed the communication from Sir W. Gull and Dr. Sutton, read by the former at the Society's last meeting. The flood-gates of discussion will be opened, and a debate, which is sure to be interesting, although it may not be novel, will result. Both sides of a question will be heard (and it is seldom that such totally divergent views upon one subject are presented), and members may possibly go away convinced, at any rate they cannot fail to be instructed. Without at all desiring to anticipate the issues of the debate, it may yet be useful to recall the main

doctrine laid down by Sir William Gull and Dr. Sutton in their paper published five years ago in the Transactions of the Royal Medical and Chirurgical Society. They then described for the first time the theory of "arterio-capillary fibrosis," and were it not with pathology as it is with every other department of knowledge, that new truths are slow of acceptance, it might be thought that this theory had not been found adequate to explain the facts, so little adoption has it received at the hands of pathologists in general. It declared that the disease known as the "contracted granular kidney" was but a small part, and that not an essential one, of a general morbid change, showing itself now first in one organ, now in another. The morbid change in question was a hyaline-fibroid transformation of the outer coats of arterioles and capillaries; it was a wide spread disease of the vessels, not dependent on defective renal excretion, but allied rather to senile degeneration. Beyond this the authors of the theory did not venture to go; the causes underlying the condition they declined to discuss. So far as it went, however, their view appeared to shed a new light not only upon renal disease, but upon pathology in general.

The facts, however, of arterio-capillary fibrosis were promptly disputed by Dr. Johnson, who attributed the hyaline-fibroid material to the action of the reagents used in mounting the preparations, and maintained that the thickening of the middle coat was the only constant feature met with in the arteries of subjects of contracted kidney. Sir W. Gull and Dr. Sutton naturally did not accept this summary dissipation of their doctrine; and in the paper just read not only reaffirm their previous observations, but reply to Dr. Johnson's by a direct contradiction, stating even that the muscular coat is often atrophied, and that its casual contraction may simulate hypertrophy. From the title of his paper it is evident that Dr. Johnson is not going to desert his position, and thus there will be the whole question of a mere matter of histological observation and interpretation reopened and discussed.

In a matter such as this, what is wanted is some authority not committed to either view to investigate the question, and to weigh the balance justly. After Dr. Johnson's former paper was read, a committee was to have been appointed to inquire into the subject, and clear up once for all this turning point in the two theories. If the committee met it never made its report, and for five years pathologists have gone their ways with this mere matter of observation undecided. Impartial investigation would probably show that there is truth on both sides. The question, however, does not merely rest upon this single fact of the kind of arterial change. It has a far wider application, and unless it be discussed upon broad grounds, but little will have been gained. Here it is that divergence between the two views comes in again in a most striking manner. In not attempting to explain the antecedent causes of the vascular deterioration, and in declining to recognise in it any evidence of blood contamination, Sir W. Gull and Dr. Sutton hardly press their facts to a just and reasonable conclusion. On the other hand, Dr. Johnson does not imitate this over-caution, and, seeking for an ultimate cause for the arterial change, finds one in the retention within the blood of waste material which the kidneys cannot eliminate, and upon that has based an explanation of the concomitant changes in other organs in chronic Bright's disease, which is too well known to need repeating here. To attribute the sclerosed condition of all organs in the body to one general arterio-capillary change, the starting-point of which is unknown, supplies, it must be confessed, but a poor alternative to Dr. Johnson's theory. Indeed, to ignore the effects of blood-contamination in the production of sclerosis itself is surely wilful blindness. For example: What better known fact is there than that chronic alcoholism and indurative changes in tissues and organs are causally connected? and what better evidence of blood-contamination could there be than is met with in the chronic drunkard? Sir William Gull and Dr. Sutton have admirably shown that the microscopical characters of sclerosis in one organ resemble those in another; and, although it may not be justifiable to assert that histological identity is to be taken as an index of causal identity, it at least suggests that such changes may be mostly due to blood-contamination.

Sir William Gull and Dr. Sutton will not, however, go so far. Whatever view they may have as to the mysterious cause which underlies the changes they describe, they do not proffer it as a theory; they have no theory but one—the existence of an entity in pathology known under the name of "arterio capillary fibrosis." Admirable as an exposition of the histogenesis of sclerosis, the paper lately read was little else but that; and it has advanced but little upon former knowledge. We knew before that sclerosis in one organ resembled sclerosis in another; that it was allied to senile changes, and to the changes produced by chronic inflammation; and yet that it was regarded by many as essentially non inflammatory, at least since Dr. Handfield Jones pointed it out twenty years ago. But we must confess that we did not know that all scleroses could be linked in one common bond of origin; that, for example, spinal sclerosis and cirrhosis of the liver were both dependent upon one general morbid state, known as arterio-capillary fibrosis—a change which (to quote the final clause of their former conclusions) "may be said hypothetically to correspond with the area vasculosa." Yet is not this the legitimate outcome of the views expressed by Sir William Gull and Dr. Sutton?

THE PROPOSED TERRITORIAL ARMY ORGANISATION.

A HUGE Blue-book has just been presented to Parliament in the shape of a Report of the Committee appointed by the Secretary for War to inquire into certain questions respecting the militia and the present brigade depôt system, together with minutes of evidence and appendix. If the recommendations of the Committee be carried out, and it seems to be the general conviction that they, or at any rate some of them will, then there can be no question as to the wholesale and trenchant nature of the change that will be accomplished. The Committee, which included several officers serving under the immediate personal orders of the Duke of Cambridge, have recommended not only that the linked one-battalion regiments shall constitute one corps for military purposes, but that they shall give up their old numbers and be joined into territorial regiments, with territorial designations. This, it will be remarked, is but part of a design; it is a necessary step towards the fulfilment of that new organisation introduced by Lord Cardwell, and deliberately approved by the House of Commons a few years back.

The scheme is one about which we, as medical journalists, are not called upon to offer any opinion, but it would be impossible for anyone to miss seeing how closely these changes are identified in principle with those which have taken place in the army medical service. In so far as this new army organisation is based upon one and the same system, and designed with a view to one common object, it conduces to a simple and effective centralisation, while in so far as it essentially depends upon a principle of localisation, a drawing together of regulars, militia, reserve, and, possibly, volunteers, at so many separate centres, and the identification of a corps with the county in which it is raised and located, it leads to what we cannot doubt is an essential feature in army reform—

decentralisation. Appendix IV. in the copy of the Report before us, indicates in a diagrammatic way the practical nature and grouping of the proposed changes. It contains specimen pages of an Army List as it would appear when all the battalions of a "Territorial" regiment, with line and militia, are shown together on the same page.

A scheme may look very well on paper and appear consistent with itself, symmetrical, and self-balanced, and yet prove practically a failure; but what we desire to point out is the unquestionable bearing which it has on the changes that have been inaugurated in a relatively small but essential branch of the service, the medical department. Supposing the double system—regimental and staff—with a separate supplementary militia medical service, to have remained intact, what chance of survival would such an organisation have had in the event of the recommendations in this report becoming an accomplished fact? What we have always insisted upon is that the changes, so far as unification is concerned, in the medical service, be they good, bad, or indifferent, were inevitable because they formed but a part and parcel of those changes affecting the reorganisation of the Army itself.

THE LIMEHOUSE SMALL-POX HOSPITAL.

IT is to be regretted that the President of the Local Government Board had not followed the example of Mr. Walters, and visited the Limehouse Hospital, before discussing the question raised by Mr. Ritchie with regard to it in Parliament. Had he done so we venture to think he would not have virtually undertaken that the hospital should be closed when the hospitals now being erected at Fulham and Deptford were ready for occupation. We had an opportunity of visiting the Limehouse Hospital a few days ago, and, like Mr. Walters, could only come to the conclusion that the local excitement which had been raised about it was wholly uncalled for. In fact, we would go further, and say that it was in great measure, if not entirely, factitious. In the temporary exigency of the Metropolitan Asylums Board the building, its site, and surroundings, are singularly free from serious objection. The reasons which caused us to regret the inadvisability of the proposed Wandsworth Hospital do not exist here, and the cry raised of the harmfulness of the hospital and neighbouring houses and works has no sort of justification. Had Mr. Selater-Booth personally possessed himself of a knowledge of the building and site he might have done good service in Parliament by protesting against opposition to the sites of infectious disease hospitals of the kind fomented in Limehouse. He might, further, have shown that so long as the educated classes lent themselves to such opposition, in defiance of experience and of common sense, so long it was idle to talk of the ignorance of the uneducated classes in sanitary matters. It is deplorable to find that after the vast experience of the great epidemic of small-pox in 1870-71 (to say nothing of other epidemics), which proved conclusively that, on the one hand, hospitals for small-pox, even when of vast size, were quite harmless in the midst of centres of population, and on the other that they are best situated amidst such centres, educated individuals should be found aiding in fomenting, and not in preventing, such agitations as that of which Limehouse is at present the seat. We were gravely told by an influential resident in East London, at the time of our visit to Limehouse, that the patients in the hospital were permitted to loll out of the windows overlooking the street, and seen to go across to the publichouse opposite for beer! Had our informant visited the spot and satisfied himself of the likelihood of this? No; nevertheless he had no hesitation in repeating this reckless invention as a well-known fact.

THE VACANCY AT KING'S COLLEGE.

IN consequence of the appointment of Mr. John Wood to the chair of Clinical Surgery, rendered vacant by the death of Sir William Fergusson, the Council of King's College, at a meeting held on the 9th instant, resolved to appoint a new professor of Systematic Surgery. Although the Council have not, beyond this, pledged themselves to any particular line of action, we believe they are strongly disposed to encourage the candidature of some of their distinguished *alumni*, of whom there are not a few, both in the metropolis and the provinces, fully competent to discharge the important duties of Professor of Surgery. For many reasons it is to be hoped that a King's College man will be elected to the chair, for although it is desirable, in the interests of a declining school sometimes to import fresh blood, it is not less important to preserve and perpetuate the traditions of a successful one.

Notwithstanding all that has been urged to the contrary, it is easily capable of proof that some of the soundest and most successful surgeons of this time were educated at King's College, and it is at least likely that some of these would be glad to renew their connexion with their *alma mater*.

It is with pleasure we announce that the Council have determined to recognise Mr. Henry Smith's long and valued services. Mr. Smith has for fifteen years worked hard for the hospital, both as out-patient and in-patient surgeon, and during the long illness of Sir William Fergusson he ably discharged the duties of Clinical Surgeon. In consideration of these services the Council have very properly determined to relieve him of the labour of seeing out-patients, and have resolved to allot to him a larger number of beds. This arrangement may, perhaps, necessitate an augmentation of the number of surgical beds; but the good which is likely to accrue will, we feel sure, more than compensate for the additional expenditure.

THE WHIP FOR BRAIN-WORK.

WITHOUT reopening the general question whether the child must needs be spoilt if the rod is spared, or if it is indispensable "the rod" should always take the form of corporal chastisement, it must be obvious the whip is not the most appropriate or successful incentive to brain-work. Naughty children, obstinate dunces who can work but will not apply, and a certain unimpressionable class of youths—who are susceptible of nothing but the pressure of physical inconvenience—may be suitably disciplined by the birch; but the weak or slow intellect is not likely to be advantaged, the rather will it be impaired, by the brute force impulse of pain and terror inspired by flogging. This is so manifest that it seems inexplicable there should be a tendency to revive the practice of caning, birching, and general castigating in schools. The ridiculous practice of "tunding" scarcely falls under the category, for this sage device is an expedient in use chiefly for the stimulation of "fags" in the performance of that menial work which is supposed to afford a salutary preparation for the career and duties of life. On this subject we have nothing to observe except that the system of training is curiously at variance with the spirit of the purpose for which it is held to qualify the victims. It is, however, with the whip as an incentive to brain-work that we are immediately interested. It is, we repeat, strange that this appliance of the schoolmaster's craft seems to be regaining its place in the estimation of the pedagogues. We should like to ask simply, Have moral influences been fairly tried, and have they finally failed? Is the improved "young gentleman" of the latter half of the nineteenth century no better than the "boy" of old times, despite the advantages enjoyed by the former? And

if that be the fact, is the circumstance that more light does not imply greater knowledge, or fuller information a keener appetite for new acquisitions, the fault of the pupil, or of his maladroit but personally unscrupulous instructors? These are questions which we think ought to be explicitly answered before parents and guardians permit the resumption of an instrument of torture until very recently laid aside, not merely because its employment was distasteful, but because as a stimulus to intellectual activity its use was mischievous and absurd.

THE INDIAN MEDICAL SERVICE.

WE have received a copy of a memorial addressed to the Marquis of Salisbury, Her Majesty's Secretary of State for India, that has been drawn up with the object of bringing to the notice of the home authorities the disadvantages under which the officers of the Indian Medical Service are labouring. The Indian Medical Service, as is well known, is the most popular of the three public medical services, and we have ourselves been accustomed to regard it as deservedly so, notwithstanding the communications that have reached us from time to time, and much more frequently of late, regarding the changed condition of that service, and the growing discontent that prevailed in it; indeed, so far has this feeling increased, that some of our correspondents have even expressed surprise and regret that we should have advocated its claims on the attention of young medical men. The memorial in question sets forth that the expense of living has greatly increased in India since the mutiny; that the rupee, owing to the deterioration in the value of silver, has diminished in value, and thereby imposed a grievous tax on the medical officers; and that the rates of pension afford a very inadequate provision for them on retirement from the service. These rates they cannot help contrasting with the scale of pensions granted to the Civil Service, and with the advantages enjoyed by military men, and especially with the scale allowed to the clerks in the India Office at home, who have never been called upon to make the sacrifices and discomforts, or run the risks to health, entailed on medical officers by tropical service.

OUR WANDERING TRIBES AND DISEASE.

IT is with unfeigned satisfaction we find attention is being at last prominently directed to the needs of the vagrant classes which, in fact, constitute wandering tribes exempt from the obligations of social decency, and hanging on the skirts of the community, parasites of its prosperity, and enemies to its health. However excellent the local provisions made against infectious or contagious diseases may be, while troops of vagrants roam the country unchecked, it is manifestly impossible that measures to stamp out many extinguishable maladies can succeed. If cattle were moved from district to district during a visitation of plague it would be vain to hope the malady might not extend. It is not too much to say that such affections as small-pox, typhoid fever, and other varieties of specific disease, cannot be eradicated while contagion-carriers run hither and thither unchecked, and their egress from each district in turn is expedited, regardless of their destination, by every artifice parochial ingenuity can devise. The vagrant system is maintained by the "casual pauper" system. Wards appropriated to the use of "casuals" are the stations on an interminable line of travel. The habitual pauper, persecuted in one city, flees to another, and, like the commercial traveller, his host knows when to expect him. The vagrant pauper, despite the complicated apparatus of "casual baths" and the "labour-test," is the contagion-carrier; and if it were possible to trace effects to their ultimate causes many a local visitation might be brought home to the system which not only sanctions but encourages vagrancy by the vigilance with which it devises and applies measures of expulsion, forgetful that when everything moves in a circle early departure hastens return. The host of itinerant hucksters and artificers, which constitute the modern tribe of "gipsies," and the ever-moving population of the canals, eke out the mischief wrought by these vagrants. Protective means may be taken to mitigate the present evils of vagabondage, but there is only one way of curing it, and that will occupy at least a generation. The children of vagrants should be trained to more social habits of life and industry. It would be worth while devoting a large sum to the eradication of this evil. The task is not easy, but something would be gained if the children of vagrants could be placed under instruction at the industrial schools, even if their parents spent some portion of the time devoted to the education of their progeny in the workhouses or in prison.

THE ARCTIC EXPEDITION INQUIRY.

THE Committee on the conduct of the late Arctic Expedition has not reported, and *if* the conclusions which have been reached are known to anyone outside that body with its officials, the information must have been obtained in a manner which can neither be recognised nor approved. It is scarcely necessary to repeat the notification that remark is, at present, inadmissible.

Our attention has been drawn to a leading article on the alleged report, which appeared in the *Standard* of Saturday last. That, we believe, forms the only exception to a decorous reserve maintained by the daily press. The remarks of the *Standard* were not only ill-timed, but strangely incompetent. The attempt to construct a defence without knowing precisely what may have been stated in the official document probably embarrassed the argument. It would, however, be difficult to explain the grotesque disregard of logical sequence exhibited in the article to which we allude upon any hypothesis, except that the subject had been seized by a writer unqualified to deal with it.

THE ADMINISTRATION OF CANTHARIDES.

IT would seem that the terms of the law are not at present sufficiently stringent to ensure the conviction of persons administering cantharides with a criminal intent. The law recognises three grades of criminality in the act of administering poisonous, deadly, or destructive things: 1st, where the intent is to commit murder; 2ndly, where the intent is to endanger life or to inflict a grievous bodily harm; and, 3rdly, where the intent is to injure, aggrieve, or annoy. The first two intents are felonies; the last is only a misdemeanour.

Taylor quotes the case of a man who was tried at the Liverpool Lent Assizes for administering powdered cantharides to a woman. "The prisoner had mixed it with a cup of tea; the prosecutrix took a portion of the tea, and suffered from vomiting and other symptoms produced by this substance; she skimmed a quantity of the powder from the tea, on which it floated, and its nature was then easily determined. The prisoner was convicted of the act of administration, but a serious question arose in reference to the intent. The jury found that he had administered the powder with the intent to excite the sexual passion of the woman, for which the new statute had not provided, as this makes the offence to depend only on the attempt to injure, aggrieve, or annoy"!

A somewhat similar case has occurred at the recent Bodmin Assizes, and was tried before the Lord Chief Justice and Mr. Justice Hawkins. A man had given to a girl can-

tharides in powder spread upon two Turkey figs. The girl's father, seeing some shining particles on the figs, prevented her from swallowing more than a very small portion. The amount contained in the figs was a grain and a half. The defence was that the quantity which was sought to be administered was not sufficient to aggrieve or annoy. The judges took this view of the case, and directed the jury to acquit the prisoner.

It is rather a nice question to decide how small a quantity of cantharides in powder might be capable of aggrieving or annoying. It is at least conceivable that an exceedingly minute portion adherent to the stomach would be likely to set up local inflammation, but there is no exact information on this point.

The excitation of the sexual passion is clearly not an indictable offence, even if cantharides has any power in this direction. The smallest fatal dose of cantharides appears to have been twenty-four grains.

It certainly seems highly desirable that the administration of love-philters, even when administered, as they always must be, ignorantly and to no purpose, should be checked; but in the present state of the law the ruling of the Lord Chief Justice and Mr. Justice Hawkins was undoubtedly correct.

A EUPHRATES VALLEY RAILWAY.

THE scheme of making a shorter route to India, by constructing a railway along the Valley of the Euphrates, appears to receive a good deal of attention at present. The project is undoubtedly a fascinating one, and it is not, perhaps, surprising that journalists should occasionally rave in an ecstasy of enthusiasm over the idea of travelling in a comfortable railway carriage along the historic country and sites which lie between the Mediterranean and the Persian Gulf—the very nursery and cradle of the human race. The difficulties in the way of such an undertaking are, however, enormous, if not insuperable. That the line, if accomplished, can be anything more than a military road for British troops, few who know anything of the country will contend. The climate may be described as deadly, and what was once a vast fertile garden, teeming with life and industry, and having a magnificent system of irrigation, is now an arid waste, traversed only by bands of plundering Arabs. An interesting contribution to the medico-military topography of the Persian Gulf and the Valley of the Euphrates and Tigris was some time ago presented by Dr. G. J. H. Evatt, of the Army Medical Department, and officially published, which may be perused with advantage by all who are interested in the question of bringing India within a nearer striking distance of home. Dr. Evatt turned his annual "leave" to excellent account. Departing from Bombay he reached Kurrachi, and then up the Persian Gulf to Bushire. He now entered the united stream of the Tigris and Euphrates, calling at Bassorah; thence up stream to Koornah, into the Tigris, and so on to Baghdad. From this city he crossed the desert of Mesopotamia to the Euphrates, and across to Eastern Arabia, visiting the holy cities of Kerbela and Nejf. Then on to the ruins of Babylon, and afterwards crossing the Euphrates and the big desert, he reached Baghdad again. Dr. Evatt's conclusions are strongly against the feasibility of making a railway through the valley, and says it is needless to remark that it would never pay. In the hot season no soldier could travel through the desert cooped up in a troop train, and even if he went singly in a first-class carriage he would die of the heat. In the winter the troops would require halting camps to rest in, and the heavy food supplies the English soldier requires would have to be stored in fortified posts in the midst of the desert. Touching passenger traffic, Dr. Evatt simply and concisely says, "unless a man were a fool he would not travel for hundreds of miles through a desert exposed to terrific heat, and then steam 1800 miles through the hot and sickly Persian Gulf."

VENTILATION OF LAW COURTS.

THE close atmosphere of courts of law is a not unimportant factor in the administration of justice. Complaints have been made of the condition of the apartments in which judges and juries are compelled to sit through weary hours with sustained attention, to the detriment of health and the weakening of those powers of perception and judgment upon which the due discharge of their grave duties directly depends. These complainings are, by no means, without cause. The foul air of many, of most, of the courts in which the bulk of our law business is conducted is evident to any casual visitor, and if those whose daily occupation compels them to frequent these courts do not notice their carbonised atmospheres and effluvia, familiarity has probably deadened the senses. The injurious effects of this state of matters are not, however, destroyed or even reduced by the fact that they are not immediately recognised. We venture to think this is a subject in which the public have a very direct and important concern. In the interests of justice, not less than of health, the atmosphere of a court of law should be as pure and innocuous, as it is now, almost universally, corrupt and injurious.

DOES POOR-LAW RELIEF RESCUE?

THE Jewish Board of Guardians have just been reviewing the progress of their work, and they are so happy as to find cause for rejoicing in "the recuperative power of the Jewish poor; in other words, that every year many families emerge from the pauper class, and, either in this country or abroad, become self-supporting members of the community." Does any success of the kind recompense the ministrations of the English Poor-law system? It would be well if practical attention could be devoted to this point. It is the one distinguishing feature of our astute method of Relief that it never aids without pauperising. Even the lunatic must be reduced to the pauper level before the State will assume the responsibility of his guardianship. Is there any set-off to this wondrous arrangement, fraught, as it undoubtedly is, with the worst perils of permanent debasement and demoralisation? It would be reassuring to find that paupers occasionally emerged from the condition of subjection to which they are reduced by law, and resumed their place among the industrial classes. We fear there are scant grounds for exultation in the success of our national system, but nothing but good could come of an inquiry to ascertain the fact.

CHOLERA IN INDIA.

THE fatality of cholera in Madras has recently assumed alarming proportions. The disease was more or less prevalent in that city throughout 1876, and caused 2038 deaths during the year. In December a rapid increase in the weekly deaths from cholera took place, and in January the weekly numbers were successively 250, 369, 445, and 275. The last weekly return to hand relates to the week ending February 2nd, when 1112 deaths were reported in Madras, equal to an annual rate of 145·3 per 1000 of the 397,552 persons estimated to be living in the city. Of these 1112 deaths, 543 resulted from cholera, 98 from small-pox, 73 from fevers, 82 from dysentery, and 90 from diarrhœa. Surgeon-Major Cornish, the sanitary commissioner for the city, attributes this excessive death-rate in great measure to the famine, and reports that crowds of famine-stricken

inhabitants of neighbouring districts are constantly flocking into the city, thus causing much overcrowding in the poorest parts of the city, and conducing to the excessive fatality of cholera, small-pox, and other zymotic diseases. In Calcutta, seventy-two fatal cases of cholera were reported during the week ending February 2nd, showing a marked increase upon the numbers in recent weeks. Very few deaths from this disease occurred in Bombay during January, and weekly returns from the principal towns in the Punjaub show that cholera was not prevalent in that province up to the middle of January.

STONE STAIRS IN THEATRES.

THE Lord Chamberlain is to be congratulated on his energy rather than on the measure of success which has attended his efforts to discover a means of protecting playgoers from the dangers of fire in a theatre. The outcome of much deliberation would seem to be a resolve to insist on stone stairs. Doubtless, under suitable conditions, stone may answer the purpose of a staircase, and the precaution is, so far, wise; but it matters little whether the way of exit be stone or wood if it is neither wide nor straight enough to afford a ready mode of egress. It is just as easy to lose one's life on a flight of stone stairs as upon one of wood if the way is blocked by a crowd of panic-stricken men and women, or so tortuous that passage is impossible. If the Lord Chamberlain be really anxious to reassure the public mind, he must go far deeper than this. The opening of a few extra doors and the insistance on stone stairs can do nothing to render houses safe which are constructed with ways of egress wholly insufficient, and so perversely intersected with passages that, without the superintendence of an active body of police, exit in a reasonable interval after the alarm of fire, and in the face of such difficulties as a panic must create, would be altogether impracticable.

A GOOD MOVEMENT.

WE are informed that the managers of the Liverpool Sailors' Home have recently established a Dispensary for the exclusive treatment of seamen in immediate contiguity to the Home. The institution is to be conducted on the self-supporting system, one shilling being charged for each attendance, while the practice of the dispensary will be strictly limited to venereal diseases. An undertaking such as this deserves every encouragement from the inhabitants. Hitherto the poor sailors have been the helpless victims of the ignorant and rapacious quacks who haunt the neighbourhood of the Sailors' Home in the town, but with the means now available it will be their own fault if they proceed to sea without having their ailments effectively treated. Similar institutions should be established in all seaport towns; the result would be a large diminution in the number of unseaworthy seamen. We would suggest that printed bills of the dispensary be distributed amongst the shipping, and that captains should be urged to send any of their men who may be suffering from euthetic diseases to the institution.

SMALL-POX AND EMIGRATION.

RECENT colonial advices show that two emigrant ships have lately arrived in Australian ports from London with cases of small-pox on board, and have, of course, been quarantined. We are not aware that any special precautions are just now taken, as to vaccination, &c., as respects emigrants sent from this country. But, having regard to the fact that these people are collected from all parts of the United Kingdom, and that small-pox is now epidemic in the metropolis as well as many of the chief towns, it would seem advisable to insist upon a special and systematic examination of all such persons at the ports of embarkation, so that the medical inspectors should be able to certify not only that the emigrants started in good health, but were, one and all, properly protected by vaccination. Emigrant ships have, during the past two or three years, been somewhat unfortunate as regards epidemics, notably, as to scarlatina and measles. But there are few more deplorable occurrences than an outbreak of small-pox in a long-voyage ship, having as its cargo a large number of persons of all ages and of both sexes. Indeed, such an occurrence once or twice repeated would justify the colonial authorities in declining to receive any more immigrants from this country until the epidemic has ceased.

RENOVATED STALE BREAD.

IT is not to be expected that bakers should lose all the bread baked in excess of their requirements for a day, and unsaleable as stale afterwards; but it is a nasty device to soak the old loaves in water and dry them in the oven, with a view to give the impression that they are newly baked. The water may not be over-clean with which the old bread is moistened, and the process of rendering the loaf sodden, or rebaking it, has a most hurtful effect on the article, rendering it far from wholesome as food. It does not seem to be generally known that it is by a device of this nature the tradesman whose sale is uncertain, or who miscalculates his requirements, avoids loss. Looking carefully at the cut surface of a loaf it is sometimes possible to tell exactly how far the actual watering has extended. The sodden part is occasionally discoloured, and the ominous dark shade suggests, at least, disagreeable reflections.

"IMPROVING AWAY."

WE are glad to observe signs that the Artisans' Dwellings Act will not be permitted to remain a dead letter. An official circular has very recently been sent to the clerks of urban sanitary authorities, asking what steps have been taken with regard to the application of the provisions of the Act. It is desired to know what representations have been made by the medical officers of health on improvement schemes which have been adopted, and in the event of the health officer's representations being acted on, how many persons of the working classes would be displaced from their ordinary abodes, as well as the extent of area affected, and the probable cost of carrying the entire scheme into execution. Dealing with the metropolis only, it would be a very easy matter, especially in some of the eastern districts, to point out areas urgently requiring "improving away." The apathy of some of the Boards is unaccountable, and we trust the circular now issued will be the means of leading to speedy action in many places.

THE LATE DR. MACKAY, R.N.

THE medical profession, and especially the medical officers of the Naval and Military services, will hear with much regret of the death, after a very short illness, from typhoid fever, of Deputy Inspector-General Mackay, R.N. We have reason to know that the late officer, although frequently recommended by the head of his department, never received promotion.

SUCCESSFUL PROSECUTION OF A QUACK AT BIRMINGHAM.

A NOTORIOUS quack named Key, who extensively advertised himself, and who paraded six or eight capital letters after his name, proclaiming himself as "of the hospitals of London and Paris," has been fined the full penalty of £20 by the stipendiary magistrate of the Birmingham police-court for falsely assuming the title of a legally qualified

practitioner. This is the first prosecution of the sort that has taken place at Birmingham for some time, and we hail it as a good omen for the future, for it is time that something was done to put a stop to the host of irregular practitioners who are trading on the ignorance and credulity of the public.

THE VACCINATION LAWS, IRELAND.

THE Colleges of Physicians and Surgeons, Ireland, have expressed their approval of the Vaccination Laws Amendment Bill (Ireland), adopted by the Irish Medical Association, to which we recently directed attention (THE LANCET, March 3rd), and have stated their intention of communicating their views to the Chief Secretary on the subject. The great representative medical bodies of Ireland are thus working shoulder to shoulder on this question, and it is hard to believe that thus united they will not secure the co-operation of the Chief Secretary in endeavouring to secure the amendment of the vaccination laws which they seek.

DR. SANDFORD, medical officer of health for the city and county of Hereford, has issued his third annual report on the sanitary condition of the districts under his charge, the main feature of which is the circumstance that a severe epidemic of scarlet fever prevailed in the city with unabated virulence during the year 1876, and at the present time shows no indication of having spent its force. The disease has existed in Hereford now for two years and a half, and, in spite of efforts to arrest its progress, no material change for the better has been effected. We are bound to say, however, that these efforts appear to have been spasmodic and half-hearted, and a painful want of energy and enterprise marks the action of the sanitary authorities. A hospital for isolating cases has not yet been established; it is only very recently that disinfecting apparatus has been provided; while an attempt to make a house-to-house visitation, instituted by Dr. Sandford, through not being properly supported, proved abortive. Every street has been visited by the disease, and, as might be expected, there has been a complete stagnation of trade.

WE have received from "An Old Visitor and owner of property in Ventnor" a very indignant and intemperate letter. The writer tells us, "apart from many other things to which objection could be made," that our Commissioner has made "an absolutely false statement," and in proof thereof he refers us to the *Isle of Wight Advertiser* of March 3rd, a copy of which he is good enough to enclose. Those of our readers who are interested in Ventnor, whether as invalids, valetudinarians, over-worked men, consultees, or owners of property, have thus an opportunity of judging for themselves as to the veracity of the statements made in our report, and we are very glad thus to give them an opportunity of doing so.

MORE necessary conveniences are wanted, and it would be well if, in distributing them, some attention were to be bestowed upon the distances between each, not exclusively, as at present, on the proximity of public places of concourse and amusement. Nor is it imperative they should be so obtrusively placed in the public streets. It is not necessary to render the approach to a convenience difficult on account of its publicity. Again, might not public lavatories and conveniences be provided for women? The railway-stations are not always accessible, and the poor can scarcely go into confectioners' shops. Great suffering is entailed by the neglect to provide for the wants of a sex peculiarly exposed to the evils arising from delay.

MR. ASHENDEN deserves credit for the strenuous manner in which he vindicates the reputation of Hastings in his periodical reports, although we cannot say that we are always convinced by his pleading on behalf of the quality of its water-supply. In a retrospect of the past year the medical officer of health points with justifiable pride to the fact that the death-rate of the town in 1876 was only 16·08 per 1000 annually, a figure which eclipses the returns from the majority of watering-places. Eleven samples of water from private wells were analysed, and eight were certified to be good, and three unfit for drinking purposes. In the commodity of milk Hastings appears to be very badly off, and a notification is now made that action will be taken against retailers who do not supply the pure article, and a list of their names and addresses published from time to time.

THE number of lunatics at large, and the frequency of occurrences of a very serious character, do not so much reflect on the sagacity of medical superintendents discharging these poor creatures from asylums as suggest the need of convalescent homes to which they can be first removed. It is a very old suggestion. Sir William Ellis urged it in 1836, but the recommendation to provide houses of the kind has never been adopted. If this could be done, a probationary residence in some intermediate home—unlike an asylum, but not wholly devoid of discipline — might enable the convalescing though not yet sane patient to recover the power of self-control gradually, instead of being thrown suddenly upon his own resources for the exercise of judgment and the government of an irritable temperament, before he is completely restored.

H.R.H. the Prince of Wales presided on Tuesday, the 13th inst., at a dinner in aid of the Association for the Oral Instruction of the Deaf and Dumb. In an able speech His Royal Highness recounted the history of the institution and the system of teaching adopted, which is the German. The peculiarity of the method introduced into England by this Association is the exclusion of signs and gestures, and the direct effort to develop articulate speech. £2000 was subscribed at the table.

WE would call the attention of the Local Government Board to the high rate of mortality prevailing at Coseley. At a late meeting of the sanitary authority there, it was reported that the death-rate was over 36 per 1000 annually, and that two-thirds of the deaths were of children under five years of age. It does not appear that any epidemic exists which can be held accountable for such returns. A medical inspection of the district would seem desirable.

WE regret to observe that the interest taken in the Hospital Sunday meetings is waning in many parts of the kingdom, with a result that the collections are becoming gradually smaller. It would be an unqualified misfortune if this splendid movement, so auspiciously inaugurated, should be permitted to die of inanition. Hospital Sunday will soon again be here, and we look to the clergy to use every effort to make 1877 a successful year.

A BILL has been introduced into the United States Legislature, making provision for the sanitary inspection and supervision of public schools. Opinion appears to be somewhat divided as to the expediency of the measure. The Board of Education of New York protests against the passing of such a law as unnecessary and uncalled for by the public interests. It would be interesting to learn the Board's real reasons for its blind opposition to the Bill.

THE need of the supply of water to large communities being released from the control of private companies is becoming more generally recognised. The Town Council of Bristol have adopted a resolution to the effect that the corporation should purchase the waterworks of the town. It is, however, stated that the project in its present form will be opposed on the ground of its excessive cost.

THE rate of mortality in London last week was 26 per thousand annually. There were registered 1782 deaths, including 96 from small-pox, 33 from measles, 17 from scarlet fever, 4 from diphtheria, 28 from whooping-cough, 25 from different forms of fever, and 10 from diarrhœa. It will be seen that the metropolitan death-rate was unusually high last week.

ACCORDING to the *Helsingfors Dagblad*, hydrophobia is prevalent among both dogs and cats in the province of Dara. Orders have been issued by the Governor for the destruction of all stray dogs.

THE COLLEGE FELLOWSHIP.

THE following return of the number of gentlemen who have passed the examination for the Fellowship of the Royal College of Surgeons during the past twenty years will no doubt be read with interest at the present time. The figures entirely disprove the allegation that the number of Fellows by examination has gradually diminished.

				Passed.	
From July, 1856,	to July,	1857	... ...	7	
„ 1857	„	1858	... ...	18	
„ 1858	„	1859	... ...	9	69
„ 1859	„	1860	... ...	15	
„ 1860	„	1861	... ...	20	
„ 1861	„	1862	... ...	16	
„ 1862	„	1863	... ...	17	
„ 1863	„	1864	... ...	16	83
„ 1864	„	1865	... ...	15	
„ 1865	„	1866	... ...	19	
„ 1866	„	1867	... ...	23	
„ 1867	„	1868	... ...	25	
„ 1868	„	1869	... ...	31	134
„ 1869	„	1870	... ...	37	
„ 1870	„	1871	... ...	18	
„ 1871	„	1872	... ...	19	
„ 1872	„	1873	... ...	19	
„ 1873	„	1874	... ...	11	91
„ 1874	„	1875	... ...	17	
„ 1875	„	1876	... ...	25	
		Total	... ...	377	

THE SMALL-POX EPIDEMIC.

DURING the severe epidemic of small-pox in London in 1871, the weekly number of deaths referred to this disease increased, with some fluctuations, from the beginning of the year until the middle of May, when the highest weekly number (288) was attained. The fatal cases, however, showed but slight decline until the beginning of July, and the epidemic prevalence of the disease continued with more or less severity until the latter end of 1872. Taking the thirty-seven years 1840–76 as the basis of calculation, small-pox has shown a greater fatality in London during May than in any other month of the year; this signifies that when the disease is epidemically prevalent the greatest fatality is reached in that month. With this experience before us, it would be unwise to look for any marked decline in the weekly number of deaths from small-pox in London during the next month or two.

The fatal cases of small-pox in registration London, which in the two preceding weeks had been 104 and 84, rose again last week to 96, of which 43 were certified as unvaccinated and 25 as vaccinated, while 28 were "not stated" as to vaccination. During the three weeks ending the 10th inst., the deaths of no less than 51 unvaccinated children, under five years of age, have been certified in London from small-pox; 20 of these were registered during last week, including 12 in the north and 5 in the east group of districts. After making due allowance for the remarkable tendency of small-pox, in epidemic seasons, to search out and attack the unvaccinated, this large number of deaths of unvaccinated children throws doubt upon the returns of the Local Government Board showing that in recent years 92 per cent. of the infants born in London are successfully vaccinated.

The four Metropolitan Asylum Small-pox Hospitals at Hampstead, Homerton, Stockwell, and Limehouse, which have accommodation for 1077 patients, contained 928 on the 10th inst.

Correspondence.

"Audi alteram partem."

THE PHYSIOLOGICAL POSITION OF COPPER.

To the Editor of THE LANCET.

SIR,—The recent "tinned peas" prosecution has been the means of bringing forward in England the question of the position held by copper in relation to the living body, and I am glad that you have opened your columns to the discussion of the subject, as I believe it to be one which merits consideration by the light of the modern evidence that has been adduced. In speaking thus I confine myself entirely to the scientific aspect of the question, which I feel should be judged apart from the influence of any desire that may exist for repressing food adulteration.

As physiologists, we enumerate copper as one of the elements entering into the constitution of the human body; but it has been a debated point as to whether it is to be regarded as an essential component, or as only accidentally present. Whichever may be true, the fact remains that it must be spoken of as constituting a constant component element. This was shown by the older analysts, notably Meissner and Chevallier, and has been recently corroborated by the results obtained by Drs. Odling and Dupré. These latter authorities found it in the liver, kidney, spleen, muscle, and blood of the human subject. They also found it in the liver, kidney, and blood of the sheep, and in beef-steak, eggs, and cheese. They likewise recognised it in bread, flour, wheat, barley, Indian corn, and various succulent vegetable products. Copper, then, exists as a widely distributed element through the animal and vegetable kingdoms, and in harmony with this it has been detected in many soils. The inference, therefore, to be drawn is that the presence of copper cannot, *per se*, be looked upon as pernicious to life. But, further, an instance was a few years ago brought to light and related to the Royal Society, which affords evidence of its actually constituting an essential or integrant part of an animal product. The instance is to be found recorded in the Proceedings of the Royal Society (vol. xvii., p. 436), and was regarded as of sufficient significance to be alluded to by one of the secretaries of the Royal Society in an annual address to the British Association for the Advancement of Science. The instance is that of the pigment of some of the feathers of the turaco, or plantain-eater, and copper was found in this pigment to the extent of 5·9 per cent., a proportion which may be taken as signifying that it must have been specially selected or picked out by the tissue, and deposited as a part of the natural operations of growth and nutrition. It was, moreover, found that the copper was so locked up in the pigment that it could not be separated without the destruction of the product.

A large amount of evidence has been during the last few years adduced, showing that the system of workers in copper may be saturated with the metal without any signs of interference with health. Chevallier and Boys de Loury collected information from the copper-workers in the various branches of the employment at Paris, and, as the result of

their investigations, state that no symptoms were discoverable which could be assigned to the action of any particular poisonous agent, although they satisfied themselves, by the presence of copper in the urine, that the metal had been absorbed into the system. Tardieu refers to these investigations, and also cites others, showing that, at Durfort, the walls against which the workmen urinate were coloured green from copper, and that the hair and even the bones of the men were found to be similarly coloured. In the case of the hair, it is stated that the copper enters into chemical combination, and cannot be removed by the action of acids. Maisonneuve, from his investigations into the condition of the workmen in the naval arsenals of France, affords corroborative testimony. The only ill-effects described are those which appear to arise from the irritating action of particles of oxide, carbonate, and other salts of copper, deposited upon the air-passages and the mucous membrane of the pharynx, and this only occurs with those who work with the fused metal. The occupation, he says, of a worker in copper is not inconsistent with a good constitution and robust state of health. Workers in verdigris are also asserted by Pechollier and Saint-Pierre to enjoy excellent health. If, then, we are to place reliance upon the positive statements which have been put upon record, the conclusion is irresistible that nothing of the nature of the disastrous effects known to occur amongst workers in lead, mercury, and arsenic are produced by impregnation of the system with copper.

Copper and its preparations have been recently experimented with upon an extensive scale by administration to animals for lengthened periods, and the results obtained show that it is only from large doses of the salts that any ill effects are noticeable, and that these arise from their topical irritant action.

How is all this to be reconciled with the evidence given at the Marlborough-street police-court the other day? According to the daily papers it was stated by Dr. Guy that salts of copper were more poisonous than lead, and that in two cases that had come under his knowledge of poisoning by green paper in a room, the poisoning in his opinion came from the copper and not the arsenic. In one of the samples of peas, upon the strength of the evidence given, a fine was inflicted upon the vendor based upon the presence of 23-hundredths of a grain of copper in the contents of the one-pound canister being injurious to health. Now, looking through Drs. Odling and Dupré's analyses of various organic products in a natural state, I see that a sheep's liver—an article derived from an animal contributing to our common food stock,—actually contained a rather larger proportion of copper, the amount found being equivalent to 25-hundredths of a grain to the pound.

If copper constitutes such a deleterious agent as has been represented, ought we not to be coming across constantly recurring evidence of its effects? Let medical practitioners appeal to their own experience, and what do they see in an authentic form of the ill effects of copper? Whilst we are called upon, from time to time, to treat persons suffering from the cumulative action of lead, mercury, and arsenic, how often does such arise with regard to copper? and this in spite of the frequency with which various articles supplied to us, particularly preserves (Dr. Hassall found, out of thirty-five samples of preserves and jellies, that thirty-three showed impregnation with copper), contain it, and the impregnation that our food must be often acquiring in the kitchen from the use of copper culinary utensils.

There has been for some years past a growing distrust of the evidence upon which our former notions regarding copper were founded. A calm and careful review of the modern literature of the subject forces the conviction upon the mind that copper has been an unjustly maligned agent. It has been the refuge for cases where no other cause for the effects observed could be discovered. Nothing is more easy than to bring forward a copper vessel as affording the needed explanation. The looseness of the evidence, which in former times was considered sufficient to inculpate copper, is well exemplified by the antiquated cases cited by Dr. Guy in your last week's issue, cases which, I take it, were rather intended for the amusement of your readers than as seriously supplying anything that could be looked upon as entitled to consideration with reference to the subject in question. Undoubtedly it must be said that in large doses some of the salts of copper act as violent irritant poisons, but the same is also to be said with regard to iron, zinc, and tin, metals against which a similar feeling of enmity is not found to exist.

I remain, Sir, your obedient servant,

Grosvenor-street, March 7th, 1877. F. W. PAVY.

THE FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS.

To the Editor of THE LANCET.

SIR,—As the new regulations for the Fellowship of the Royal College of Surgeons are still under discussion, I venture to address a few remarks to you on what seem to me the faults of the present system, which arise, I believe, entirely from the separation of the examination into two parts, and the admission of students to the primary part. In order to suit the examination to these students, who, it must be remembered, have spent three years in the almost exclusive study of two subjects (anatomy and physiology), it has been found necessary to raise the standard of the examination to a height absolutely unattainable by any man engaged in the active practice of his profession. This seems to me to constitute a real hardship. There must be always a large number of able and accomplished men all over the country who, either from the force of circumstances or from natural inclination, have drifted rather into the line of surgery than medicine, and have come to be looked upon by their neighbours in the profession as the proper persons to be called in consultation in any surgical emergency. Such men naturally covet the distinction of the fellowship, and it seems hard that they should be debarred from obtaining it. Yet at the present time it is almost impossible for them to do so without retiring from practice and becoming again students for a period of at least six months. But it is urged that in order to admit these gentlemen, good surgeons though they may be, it would be necessary to lower the standard of the primary examination. It seems to me, however, that a standard of knowledge is relative, and not absolute, and that what would be really very high for a man in active practice would be low for a student fresh from three years in the dissecting-room. The standard in surgery and surgical pathology would, of course, require no alteration, and could probably be as easily attained by the practitioner as by the student.

It is asserted that the present system tends to encourage a more extensive study of anatomy and physiology and a prolonged hospital attendance on the part of the student. But is this the object of the fellowship? Is the title of "F.R.C.S." intended to be a mere student's honour, or is it intended as the badge of a man who, by study and practice, inclines towards the surgical department of the profession? Few men can make up their minds while students which branch they intend to follow; in fact it is a bad thing for any to do so, and yet, under the present regulations, unless a man has done this his chance of obtaining the fellowship in after-life is small. Moreover, it is my experience that the examination, as at present conducted, does more harm than good. It not unfrequently happens that a student after passing the primary examination for the membership at the end of his second year determines to take another year and attempt the fellowship. His third year therefore is spent chiefly in the physiological laboratory and the dissecting-room, and the hospital gets but little of his attention. The chances at present are about even that he is rejected, and he then usually abandons his attempt, devotes his attention to surgery, and after only one year of regular hospital work is passed as a fully qualified practitioner. Such a man, however much he may have gained by his extra year of anatomy and physiology, has lost more by the shortness of his clinical work. Supposing he does pass, and even completes his six years' hospital study and becomes a fellow, it is quite possible that his inclinations lead him rather in the direction of medicine, or the circumstances in which he is placed give him but little practice in surgery; and we thus have the anomaly of a man bearing a title which is supposed to characterise a surgeon, and yet, perhaps, scarcely seeing a surgical case

once a year. This, it seems to me, must tend to diminish greatly the value of the diploma.

Another, and, to my mind, the greatest fault of all, is, that there is no special test in anatomy in the second examination. It is possible for a candidate to have passed the primary many years before, and yet when he presents himself for the pass, no means are taken to ascertain how much of his former anatomical knowledge he retains. Moreover, not having to work again through anatomy and physiology, when he has found out what he learnt them for and what are their practical applications, he loses what really is to my mind more valuable than any title he may obtain by so doing. It is not to be supposed that, because many years before he knew these subjects well, he must necessarily retain that knowledge. Nothing is more evanescent than the knowledge of anatomy gained in the first few years of study, and the best remedy for this is a complete revision of the whole subject some years after. The full appreciation of the importance of the subject and its innumerable practical applications can only be obtained in this way, and this broader knowledge is sacrificed by the present regulations.

It may be questioned, also, whether it is beneficial to the mind of the student to prepare for three years for an examination of such limited breadth as the primary fellowship. The Conjoint Scheme, it is to be hoped, will correct this evil in the membership, and it will be a pity to perpetuate it in the fellowship. It is time enough to limit the examinations to one branch of the profession when the whole curriculum is finished. To sum up, the old fellowship, which was an examination adapted to practitioners, has been disestablished, and a students' examination of doubtful utility has been established in its stead.

It seems to me that the remedy for these faults consists simply in a return to something like the old system of examination. Let no candidate be admitted till he holds some other diploma, and until he is at least twenty-five years old. Let there be only one examination, including anatomy, physiology, surgery, and surgical pathology, of such a standard that none can pass without really high attainments, and yet not such as to exclude those who are actually in the practice of their profession. The F.R.C.S. would then become again the badge of a surgeon, as the M.R.C.P. is of a physician, and its utility and value would, I believe, be greatly increased.

I am, Sir, your obedient servant,

March 14th. MARCUS BECK.

To the Editor of THE LANCET.

SIR,—The leading article in THE LANCET of March 3rd, on the proposed alteration in the bye-laws for the admission of candidates to the Fellowship of the Royal College of Surgeons is very opportune, and as one of the Fellows of the College interested in the question, I beg to thank you for it, and to express the hope that it will have the effect of stirring up the Fellows to take action at once, and by unanimously signing the memorial to which you have given publicity, prevent this ill-advised step being taken. Until I received the memorial last week, I was not aware that any change of the sort was contemplated, and I daresay the majority of the Fellows were equally in the dark.

There are two reasons for characterising the proposed change as an utter mistake and unfair; the one being in the interest of the College itself, and the other the injustice to the present Fellows. You have so ably set forth the latter that I need not occupy your space on that head. But on the first point I would like to say a few words, and as self-interest has paramount weight with corporations as much as it has with individuals, perhaps they may have the desired effect.

It is the duty of the Council of the College of Surgeons of England to maintain its position as the chief surgical corporation in the kingdom. It should be looked upon as including in those who hold its highest degree men of first-rate ability. It can only do this by embracing among its Fellows the *crême de la crême* of the consulting surgeons of this country, the men who, by their training as much as by their ability and skill, force themselves to the front, and thus become leaders of surgical opinion and practice. But how are these men formed, if it is not by passing successfully through ordeals of examinations which weaker men shrink from? Having attained their high position, they in reality elevate the College to which they belong more than the College elevates them.

If the University of London makes its highest qualification more difficult of attainment every year, and if the Royal College of Physicians is equally jealous of keeping up the high position which its fellows must hold, what is the infatuation which is leading the kindred College to adopt an opposite plan, by lowering the standard of eligibility to its highest degree to a level but little removed from that required for its membership.

I am, Sir, your obedient servant,

Prince's-road, Liverpool, March 10th, 1877. ROBT. HAMILTON.

To the Editor of THE LANCET.

SIR,—Is it not practicable to convene by circular a public meeting in London of the Fellows of the College of Surgeons (say on Tuesday, April 1st next), to afford an opportunity of free expression of opinion on the proposed alterations in the examination for the F.R.C.S.? I venture to assert that such an opportunity would be warmly welcomed and a pretty unanimous condemnation of a manifest injustice to existing Fellows by Examination the result.

The scheme under the consideration of the Council is on many other grounds most retrograde and prejudicial to the real interests of the College. What these other grounds are would be made clear at a meeting. Allow me, through your columns, to submit this suggestion to those who have had charge of the memorial.

The Council meet on the 22nd inst.; no time, therefore, should be lost.

I am, Sir, yours obediently,

March 14th, 1877. F.R.C.S.

THE WESTMINSTER HOSPITAL.

To the Editor of THE LANCET.

SIR,—You will confer a great favour on the authorities of this hospital by permitting them to announce to your numerous and influential readers that important structural improvements and extensive repairs of the present building, long needed, and now urgently demanded, have, after mature consideration of the plans, been resolved upon, and will be carried out forthwith.

The estimated cost of this comprehensive and indispensable undertaking is £12,000; and they desire to add that contributions to the "Repairs and Improvements Fund," which are earnestly solicited, may be paid to their bankers, Messrs. Hoares and Co., and Messrs. Ransom, Bouverie and Co., or to the Secretary of the hospital, by whom they will be thankfully acknowledged.

I am, Sir, your obedient servant,

P. P. BOUVERIE,

Treasurer and Chairman of Committee for Improvements, &c.

March 8, 1877.

DEVILLE *VERSUS* THE HARROGATE COMMISSIONERS.

To the Editor of THE LANCET.

SIR,—Allow me to thank you for your notice of this case in THE LANCET of Saturday last, and to say that the friends of Dr. Deville intend to solicit subscriptions towards a fund for defraying his legal expenses, and that I shall be glad to receive the names of intending subscribers and to answer any inquiries which those who take an interest in the case may wish to make.

I am, Sir, your obedient servant,

75, Castlegate, York, March 12th, 1877. S. W. NORTH.

GLASGOW.

(From our own Correspondent.)

DR. MCKENDRICK chose for the subject of his three lectures before the Faculty "The Graphic Method." The audience on each occasion was large, the experiment successful, and it seems superfluous to add that the able nar-

rative of recent physiological research was listened to with wondering, if not instructed, attention. The President of the Faculty stated at the conclusion of the lectures that the grant of £50 would most likely be continued annually if anyone, either fellow or non-fellow, had something new to communicate. This wide invitation will, no doubt, be heartily responded to, and the selection of the Council in the future it is presumed may be difficult. There are few men even in Glasgow without hobbies requiring an occasional airing, though the smoke and our heavy atmosphere may retard the ready development unless aided by reasonable incentives.

You noted in your last issue that the Chair of Anatomy, so long and worthily held by Professor Allen Thomson, would soon be vacant. What a contest there will be for the appointment! which is in the gift of the Crown. It is said that the choice will lie between Glasgow and Galway, and parties are forming accordingly.

Professor Lister's injudicious speech has excited much comment here as elsewhere.

Another fatal case of hydrophobia has been reported this week, the victim being a young girl who was bitten by a dog in December last. It is singular, though four deaths have occurred since October, that no dog with rabies has yet been detected, and the question is, what becomes of the originators of the disease?

The opposition at one time threatened to Anderson's College Bill has been withdrawn, and the coveted title of Professors given to the Anderson teachers has been confirmed by Act of Parliament. "The unexpected always happens," and after years of systematic neglect, the trustees of the College have voted a very handsome donation to the medical faculty in aid of current expenses; and it is even hinted that during the annual cleaning which overtakes Glasgow at this season of the year, the old building will not be neglected, and in addition some whitewash and paint will also be expended on it.

The future of our local medical journal, whose demise is prematurely chronicled, is at present the subject of anxious consideration. Papers, it is said, cannot be obtained. This is strange when we have three teachers on every branch of the medical curriculum, a large body of general practitioners, besides a few others who, though belonging to neither class, might be expected to lend a helping hand. Surely with so many circumstances in its favour, a good editorial staff, and a little patience, things will improve, and the journal ultimately become the representative of the profession in the west of Scotland.

Glasgow, March 13th, 1877.

Obituary.

DEPUTY INSPECT.-GEN. MACKAY, R.N.

WE deeply regret to announce the death, after a very short illness, of Dr. Alexander Eugene Mackay, Deputy Inspector-General of Hospitals and Fleets, whose name will be familiar to all our readers, and especially to the medical officers of the army and navy, from his work in connexion with the Statistical Reports of the Health of the Navy, in the compilation of which he had been engaged for many years. Dr. Mackay's career in the Naval Medical Service commenced on the 8th of April, 1844, when he was gazetted as an assistant-surgeon, and, according to the usual routine, was appointed to a naval hospital (Haslar), where he remained for about twelve months before joining Her Majesty's ships, in which, in the course of the next eight years, he served upon the East India and China stations, being also attached for a time to the naval hospital at Hong-Kong. Having thus acquired a varied experience of the duties required from a naval medical officer, Dr. Mackay was, on Nov. 12th, 1852, promoted to the rank of surgeon, and in that capacity served upon the Australian station, and as senior medical officer in the flag-ships of the Mediterranean station and on the south-east coast of America. As a proof of the zeal and ability which the young officer displayed in the discharge of his professional duties, it is worthy of note that he was in 1857 awarded Sir Gilbert Blane's medal for the excellence of his medical returns, which had attracted the attention of the Director-General of the Medical Department, and had, according to custom, been referred, in common with the journals of other officers, to the presidents of the Royal Colleges of Physicians and Surgeons, who are associated with the Director-General in the award of this coveted distinction. It was probably owing in no small degree to the recognition which Dr. Mackay thus obtained, and to other evidence he had given of his special qualifications for the work, that he was, in 1864, selected to succeed the late Dr. Bryson (then appointed Director-General of the Medical Department) in the important and responsible duty of drawing up the Statistical Reports of the Health of the Navy, already referred to. In conjunction with this his chief work, Dr. Mackay was called upon to perform other official duties, and in the event of the Director-General's absence on his annual inspection of the naval medical establishments, or from other causes, he represented him at the Admiralty. It will thus be readily seen that the post filled by the deceased officer required qualities of no ordinary character, and it is not too much to say that no public servant has ever discharged his duties with more fidelity to the country or with more consideration for those with whom he was brought into contact. To the clearness, fulness, and trustworthiness of the Reports upon the Health of the Navy allusion has frequently been made in our columns, and the medical officers whose journals formed the basis of his remarks owed much to the untiring energy with which he examined their returns in order to note all points of interest, whether in their details of cases, or in their allusions to topography or hygiene. The value of the evidence afforded in the Blue-books as to the origin of the several epidemics of cholera, yellow fever, and other diseases which have occurred from time to time at the different stations, has been duly recognised by competent authorities in the profession, and it was, we believe, no slight satisfaction to Dr. Mackay, as volume after volume passed through his hands, to feel that the importance of his work was thus admitted on all sides. By the Director-General of his department, Sir Alexander Armstrong, he was, it need scarcely be said, very highly esteemed, and by the members of the clerical staff of the department he was greatly beloved. That his merits were recognised by his professional brethren in the outer world was proved by his election to the fellowship of the College of Physicians, a distinction which he highly valued; and he was also recently elected a fellow of the Statistical Society, in the library of which his reports had long found a place. To the medical periodicals Dr. Mackay had made several valuable contributions, including a paper on dysentery, a disease which had been brought prominently under his notice in his service on the China station. Dr. Mackay's death, which took place on Saturday last at his residence at Clifton-hill, St. John's-wood, was due to typhoid fever of a few weeks' duration. He has left a widow and four children, by whom, as by his large circle of private friends, his loss will be deeply lamented. At his funeral, which took place on Thursday at the Paddington Cemetery in Willesden-lane, the officiating clergyman was the Rev. Canon Duckworth, Chaplain in Ordinary to the Queen. Among those present, in addition to the relatives and others immediately connected with the family, were—the Director-General, Sir Alex. Armstrong, K.C.B.; Admiral W. Houston Stewart, C.B., Controller of the Navy; Inspector-General Macleod; Deputy Inspector-General Pickthorn; Staff-Surgeon W. H. Lloyd, R.N., and other officers representing the various naval medical establishments; Mr. Henry Ford Barclay, Mr. Edward Lyon, and several gentlemen from the Medical Department.

LEWIS EDWARDES, M.B.

MANY a heart must have been saddened as the flag of H.M.S. *Volage* floated half-mast high in token of the passing away of the young, gallant, and gentle soul of Surgeon Lewis Edwardes, whose death occurred at Colonia Rio de la Plata, at the early of 28. He was the son of the late Dr. Edwardes of Wimbledon, and was educated at Rugby. He entered Guy's Hospital in 1864, having just previously

matriculated at the London University, his name being placed in the first division. He passed his final examination at the College of Surgeons, London, in 1869, and then proceeded to the University of Aberdeen, at which he graduated Bachelor of Medicine in 1871, taking honours in surgery. It was then his intention to enter the Army, but the Medical Board rejected his application on account of a slight tendency to varicose veins in one leg; he therefore put down his name for the Navy, and there he was more fortunate, and at the entrance examination he came out first on the list of successful candidates by a large number of marks. This position he maintained on leaving Netley, his name being again placed first on the list. He was then gazetted to H.M.S. *Volage*. Witty, accomplished, and endowed with much more than average talent, his future gave promise of being a brilliant one. His quiet life and charming society attracted many sincere friends both at Guy's and Aberdeen, and it must have been with surprise and with feelings of the deepest regret that they saw the announcement of his premature death.

SAMUEL ALLEN BINDLEY, F.R.C.S.

DEATH has removed, at the age of 67, Mr. S. A. Bindley, F.R.C.S. Exam., one of the most able and respected practitioners of Birmingham. After passing the College and Hall in 1831, Mr. Bindley was for several years house-surgeon at the General Hospital, where he established for himself a high reputation as a sound thinker and a good practical surgeon. He was subsequently elected honorary surgeon of the General Dispensary, in which office he did much good for the general public. His success in private practice was very considerable, and by his patients and friends he was much beloved. He took an active interest in the welfare of the Birmingham Medical Benevolent Society, and had for many years been one of its treasurers.

PARLIAMENTARY INTELLIGENCE.

For the week ending March 15th.

HOUSE OF COMMONS.

THE SANITARY STATE OF THE WAR OFFICE.

The CHANCELLOR of the EXCHEQUER, in reply to Mr. Coope, whether, after the adverse report of the committee appointed to investigate into the sanitary state of the War Office, the Government were taking any, and, if so, what steps for the erection of a new office suitable to the wants of the department, said that what was being done was in compliance with the recommendations contained in the report of the committee. An estimate prepared by the Board of Works had been submitted to the Treasury and sanctioned by them, and the works would be immediately commenced. The Government was seriously considering what steps should be taken with regard to the erection of a suitable office for the wants of the department.

SMALL-POX AND VACCINATION.

In reply to Mr. James, Mr. SCLATER-BOOTH stated that the reason why 13,424 cases were not recognised in the 35th annual report of the Registrar-General as not vaccinated, or vaccinated, arose from the fact that the Legislature did not give him any means for insisting on the information being provided in the medical certificates.

CABS AND SMALL-POX PATIENTS.

Lord R. GROSVENOR asked the Secretary of State for the Home Department whether he could give any information as to the number of cabs "setting down" patients at the small-pox hospitals within the metropolitan police districts during the last three months; and whether it was true that a policeman was specially appointed to stand at the gate of small-pox hospitals to stop any cabs that had brought patients, and to have such cabs properly disinfected before they went out again to ply for hire.

Mr. CROSS said: I have made inquiries of the police, and find there are four small-pox hospitals within the metropolitan police district, viz., at Highgate, Hampstead, Homerton and Stockwell. The first-named is a voluntary institution, and during the past three months no patients have been seen conveyed in cabs to that hospital. At Highgate invalid carriages belonging to the different parishes are in use. At Hampstead there has been no single instance during the present epidemic of a cab being used for carrying small-pox patients. At Homerton one case has occurred; the cab was disinfected by the police, and proceedings were taken against the offender for not informing the driver of the nature of the disease. Two instances have occurred at Stockwell. Both cabs were taken to the police-station and disinfected. In one case proceedings were taken, and the result was the offender was fined £5. A constable is not specially stationed at the gates of the hospitals, but the porters have all strict orders to take down the number of any cab which appears with a patient in it, in order that the driver, and, if necessary, the hirer, may be brought to justice.

CORONERS.

Mr. CROSS, in answer to Lord F. Hervey, whether he intended to introduce this session a Bill for amending the law relating to coroners and coroners' inquests, said the subject had occupied the attention of the Government, and that a Bill had been prepared, but he would not ask leave to introduce it until he thought there was a reasonable probability of its passing.

SMALL-POX IN LIMEHOUSE.

Mr. SCLATER-BOOTH trusted, in reply to Mr. Ritchie, that increased accommodation for small-pox patients at Deptford and elsewhere would relieve Limehouse of the evil now complained of.

THE RECENT POLAR EXPEDITION.

Captain PIM asked the First Lord of the Admiralty when the report of the committee on the outbreak of scurvy in the recent Polar expedition would be laid upon the table of the House, and whether the summary of the same which had appeared in the newspapers might be considered as substantially correct.

Mr. HUNT: The report in question has not yet been presented to the Admiralty, but I have heard from the Chairman of the Committee that he will shortly be able to present it to the Admiralty. As soon as I get it I shall be happy to lay it on the table of the House.

LOANS FOR SANITARY PURPOSES.

Mr. SCLATER-BOOTH, in reply to Mr. Whitbread, stated that the last published returns of loans to urban sanitary authorities showed that the sanction of the Local Government Board had been given to loans amounting to £1,835,797, to urban sanitary authorities. Since that time, although the accounts were not completed for the year 1876, sanction had been given to the urban authorities for the borrowing of £2,506,459, showing an increase of £670,662. In the case of the rural sanitary authorities the amount, by the last returns, was £137,808, and during the year 1876, £200,692, showing an increase of £62,284.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on March 8th:—

Bond, James William, Torrington-square.
Rogers, William Henry, Paragon, New Kent-road.
Satchell, William Morris, Tunbridge Wells.
Atkinson, Henry Seymour, Queenstown, Ireland.
Stewart, Frederick George, Merrick-square, Borough.

[In the Primary Examination list published last week, the name "Horatio Edward Walker" should have had Guy's instead of the London Hospital attached to it.]

MR. T. L. BROWNE, L.R.C.P. Edin., has been appointed Deputy-Coroner for Flintshire.

THE surplus of the Cotton Famine Relief Fund in the district of Eccles and Patricroft, amounting to about £600, has been devoted to the establishment of a dispensary.

THE Lymington Guardians have awarded £50 to Mr. Nicholas Adams, as an expression of their satisfaction at the manner in which he discharged his duties as a medical officer to the union for nearly half a century.

DR. DOLBEAU, the eminent Professor of Surgical Pathology of the Faculty of Paris, expired almost suddenly on Saturday last. His death was brought on by an attack of cerebral congestion, the result of plethora and polysarcia.

WE have received a programme of a "Special Exhibition of Arrangements and Apparatus for Heating and Ventilation," to be held shortly in Cassel, Germany. The exhibition will remain open from the 1st April to the end of August of the present year. Application for space, &c., should be addressed to the care of Dr. E. Wiederbold, Cassel.

IT is proposed to rebuild the Bolton Infirmary and Dispensary at a roughly estimated cost of from £60,000 to £70,000, towards which Messrs. John Musgrave and Sons have promised £5000. Other liberal support has been offered, and Dr. Chadwick, of Southport, bequeathed £1000 conditionally upon a ward for children being built within four years, and Mr. Nathaniel Greenhalgh, of Sharples, £1000 conditionally upon a new infirmary being built within ten years.

HOSPITAL SUNDAY AT DARLINGTON.—Within the last year or two this institution has taken shape at Darlington, but never so prominently as during the present year, under the fostering care of the mayor. On the 4th inst. collections were taken at the different places of worship throughout the town, and it is expected that a very respectable sum will be realised.

BEQUESTS &c. TO MEDICAL CHARITIES.—The Queen has given £50, and the Prince of Wales £21, to the London Fever Hospital. The Duke of Westminster and Lord Hatherley have each given £100 to the repairs and improvement fund of the Westminster Hospital. Mr. Daniel Warren, of Porchester-terrace, Paddington, has bequeathed £100 to the Cancer Hospital. "A Friend" has given £105 to the West London Hospital, Hammersmith.

Medical Appointments.

ATTHILL, W. E. B., L.R.C.P.I., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for No. 1 District of the Faversham Union, and Medical Officer of Health for the No. 1 Sub-district of the Faversham Rural Sanitary District, vice Spong, deceased.

BLAKER, T. F. I., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the Brighton and Hove Lying-in Institution, vice Lacy, resigned.

CAPON, H. J., M.R.C.S., L.S.A., has been appointed House-Surgeon to the Dorset County Hospital.

CARMODY, W. F., M.D., has been appointed Medical Attendant to the Royal Irish Constabulary, Killanne, co. Wexford, vice Doyle, resigned.

FITZMAURICE, U., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Attendant to the Royal Irish Constabulary, Listowell, co. Kerry, vice Thorp, deceased.

GANGE, F. A., M.D., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Faversham Union Workhouse, vice Spong, deceased.

GAWITH, J. J., M.R.C.S.E., L.S.A.L., has been appointed Surgeon to the Central or No. 2 District of the Metropolitan Railway Provident Society, just formed.

GOOD, J., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the Wilton District of the Wilton Union, vice Bennett, resigned.

GOULDEN, F. S., L.R.C.P.L., M.R.C.S.E., has been appointed Junior Resident Medical Officer to the Royal Free Hospital, vice Jeffries, appointed Resident House-Surgeon and Registrar to the Cancer Hospital.

HATFIELD, W. H., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Hambledon District of the Droxford Union, and Medical Officer of Health for the Hambledon Sub-district of the Droxford Rural Sanitary District, vice Gaman, deceased.

HAYES, H. R., L.R.C.P.L., M.R.C.S.E., has been appointed a Medical Officer to the Hants Friendly Society.

HOFFMEISTER, J. B., L.R.C.P.Ed. & L.M., M.R.C.S.E., has been appointed Medical Officer for the Godshill District of the Isle of Wight Union, vice Woodford, resigned.

MACRITCHIE, D., M.B. & C.M., L.R.C.S.E., has been appointed House-Surgeon to the County Hospital, Huntingdon, vice Ellis, resigned.

PAGE, W. I., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Wimbledon Hospital for Infectious Diseases, at £50 per annum.

SANDELL, H. W. A., L.R.C.P.Ed. & L.M., M.R.C.S.E., has been appointed Medical Officer to the Lead Company's Workmen's Medical Union, Alston District, vice Davidson, resigned.

SHORTRIDGE, T. W., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer to the Workhouse, and Medical Officer and Public Vaccinator for the Nos. 1, 3c, 10, and 11 Districts of the Honiton Union, Surgeon to the Honiton Dispensary, Certifying Factory Surgeon, and Medical Officer to the Court Hope of the Ancient Order of Foresters, all vice Mayne, deceased.

SIMPSON, W., M.B., C.M., has been appointed Admiralty Surgeon and Agent at Buckie, Banffshire, vice Carmichael, deceased.

STRATON, C. R., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer to the Wilton Union Workhouse, vice Bennett, resigned.

SWETE, E. H. W., M.D., F.C.S., has been appointed Public Analyst for Worcester, at £25 per annum, and fees for each analysis after the first forty, as follows:—Analysis of food (other than water) or drugs, 10s. 6d.; analysis of water, 21s.

WEBB, C. F., M.R.C.P.Ed., M.R.C.S.E., has been appointed a Medical Officer to the Hants Friendly Society.

WELLS, Mr. T. S., has been elected Consulting Surgeon to the Samaritan Free Hospital, vice Sir W. Fergusson, deceased.

WOOD, W. D., L.R.C.P.Ed., L.R.C.S.Ed., has been reappointed Medical Officer of Health for the Altofts Urban Sanitary District.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On the 9th inst., at Upper Berkeley-street, Mrs. Elizabeth Garrett Anderson, M.D., of a son.

BYRNE.—On the 6th inst., at High-street, Great Horton, the wife of J. J. Byrne, L.R.C.P.L., of a daughter.

DODD.—On the 6th inst., at Seymour-street, Portman-square, the wife of A. Russell Dodd, L.R.C.P.L., of a daughter.

GRANT.—On the 3rd inst., at Reidhaven Villa, Grantown, Morayshire, the wife of John Grant, M.D., of a son.

HOOPER.—On the 3rd inst., at Newhall, near Burton-on-Trent, the wife of A. Hooper, M.R.C.S.E., of a daughter.

LUMLEY.—On the 5th inst., at Northallerton, the wife of Bartholomew Lumley, M.R.C.S.E., of a son.

PRITCHARD.—On the 6th inst., at Guilford-street, Russell-square, the wife of Urban Pritchard, M.D., of a daughter.

PURVIS.—On the 12th inst., at Royal-hill, Greenwich, the wife of John Prior Purvis, M.R.C.S.E., of a daughter, still-born.

SCOTT.—On the 4th inst., at Crescent-road, Bournemouth, the wife of Thomas Bodley Scott, L.R.C.P.Ed., of a son.

TYLECOTE.—On the 12th inst., at Sandon, Staffordshire, the wife of J. H. Tylecote, M.D., of a son.

MARRIAGES.

BROWNE—CARTER.—On the 10th inst., at St. James's, Piccadilly, Elliotte Sanderson Browne, L.K.Q.C.P.I., to Abigail Borche, daughter of the late Francis Bonke Carter, Esq.

FAWCETT—WILLIAMS.—On the 13th ult., at Trichinopoly, William James Fawcett, M.B., Royal Artillery, to Eliza Mary, daughter of General W. T. Williams.

DEATHS.

BROWN.—On the 11th inst., at Anarkulee, Lahore, Punjaub, Mary Caroline, the wife of T. E. Burton Brown, Esq., M.D., M.R.C.S.E., and fourth daughter of C. J. Hewlett, Esq., of Tavistock-place and Crescent-lane, Leadenhall-street. (By telegram.)

COCKS.—On the 6th inst., at Liscard, Cheshire, William Lawrence Cocks, M.R.C.S.E., aged 75.

DOWN.—On the 5th inst., at Southsea, Henry Wilcox Down, M.R.C.S.E., aged 44.

KING.—On the 4th inst., at Richmond, Surrey, Samuel King, L.S.A.L., aged 73.

MACKAY.—On the 10th inst., at Clifton-hill, St. John's-wood, Alexander Eugene Mackay, M.D., Deputy Inspector-General of Hospitals and Fleets, aged 55.

MARSHALL.—On the 12th inst., at Gordon Villa, East Cowes, Peter Marshall, F.R.C.S.E., late of Bedford-square.

MUMFORD.—On the 6th inst., at Ipswich, William Mumford, M.R.C.S.E., aged 70.

MURIEL.—On the 5th inst., at Hadleigh, Suffolk, John Thomas Muriel, M.R.C.S.E., aged 47.

RAMSAY.—On the 9th December, at Colombo, Ceylon, Ebenezer John Ramsay, M.R.C.S.E., aged 27.

SEGRAVE.—On the 28th January, at Kingston, Jamaica, Francis William Segrave, L.K.Q.C.P.I.

SPRIGGE.—On the 11th inst., at Watton, Norfolk, after a short illness, S. Sprigge, Esq., Surgeon, aged 57.

STRAKER.—At Kirkee, East Indies, John Fortnom Straker, M.R.C.S.E., Surgeon-Major, Bombay Medical Service.

THOMPSON.—On the 6th inst., at Ballina, co. Mayo, Arthur Goff Thompson, L.R.C.S.I.

TOWNSEND.—On the 3rd inst., at Queenstown, co. Cork, Richard Newman Townsend, L.K.Q.C.P.I., aged 41.

WILLIAMS.—On the 6th inst., at Chelsea, Alexander Williams, L.R.C.P.Ed., late Secretary Veterinary Department, Privy Council Office, aged 48.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Clinical Records of Injuries and Diseases of the Genito-Urinary Organs. By C. Fleming.
St. Bartholomew's Hospital Reports.
The Journal of the Quekett Microscopical Club.
Twelfth Annual Report of the Sanitary Commissioner with the Government of India.
A. W. Moore on Corpulency.
Dr. Piffard on the Actual Cautery and its Employment in Cutaneous Surgery.
British Journal of Dental Science. February.
The Boston Medical and Surgical Journal. March.
D. P. Fry on the Lunacy Laws.
J. M. Charcot on the Diseases of the Nervous System.
Juvenile Smoking.
Hodgkinson and Co.'s Railway, Banking, and General Investment Guide. March.

METEOROLOGICAL READINGS

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, MARCH 15TH, 1877.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall	Remarks at 8 A.M.
Mar. 9	30·12	N.	32	35	....	42	31	....	Hazy
„ 10	30·14	S.E.	32	34	....	39	32	....	Overcast
„ 11	30·28	S.E.	33	38	....	41	27	....	Fine
„ 12	29·95	W.	39	40	....	48	32	....	Overcast
„ 13	29·78	WNW	42	46	....	50	39	....	Cloudy
„ 14	29·91	W.	47	50	....	56	45	0·03	Cloudy
„ 15	29·90	N.W.	41	44	....	50	40	....	Overcast

Notes, Short Comments, and Answers to Correspondents.

THE FELLOWSHIP OF THE ROYAL COLLEGE OF SURGEONS.

WE are unable through want of space to give insertion to a large number of letters that have reached us respecting the proposed alterations in the regulations relating to the Fellowship examinations at the Royal College of Surgeons. While most of the writers agree in condemning the proposal, there seems to be a unanimity of opinion that the diploma of Fellow should be made more accessible to some of the more distinguished members of the College than it is at present. It is, however, possible to ask too much. There is no more reason that successful Members of the Royal College of Surgeons should be able by a mere formal examination to obtain the Fellowship of their College than that successful Licentiates of the Royal College of Physicians should have the Membership given to them after a simple examination and the payment of a fee. The Fellowship of the Royal College of Surgeons and the Membership of the Royal College of Physicians are evidences of education, training, and skill, and their value should not be deteriorated merely to gratify personal vanity. Few things are more desirable than an increase in the number of Fellows of the Royal College of Surgeons; but the increase should arise from a higher state of surgical education and knowledge, and not from a lowering of the examinational standard.

Geneva.—We are unable to give the information required.

SANITARY CONDITION OF VENTNOR.

To the Editor of THE LANCET.

SIR,—I think that some of the statements reported in your journal respecting the sanitary arrangements of Ventnor require correction.

Although we do not claim for Ventnor that it is perfect in every detail of its sanitary department, yet I think some of the remarks of your Sanitary Commissioner are unfair and misleading. It is simply absurd to say that the Crab and Lobster Hotel is the only house in Ventnor where proper attention has been paid to ventilation of the drains and closets. No doubt every care has been bestowed upon this house to render it as perfect as possible; but the other hotels in the town have been constructed with as faultless arrangements as those adopted at the Crab and Lobster. The lodging-houses and also most of the private houses are, as a rule, ventilated upon the very same system as that so much and so justly praised at this hotel; many of the houses having more than one special shaft-pipe from the house-drains to the roof or chimney-stack, while almost all the down pipes from the rain-spouts are carried into the house-drains.

Passing to ventilation of the sewers. It is a generally admitted fact that Latham's spiral charcoal ventilators (the ventilators used at Ventnor) are a source of danger to the health of the inhabitants of any town. Surely, passing through four layers of charcoal ought to minimise the danger, if any, almost to a point. Seeing that the ventilators are in the middle of the street, the proportion of water entering the town sewers at different places, in a perfectly pure state, being more than two to one of the entire volume contained in them, and the gradients being such that all matter passes along at a great velocity, this, taken in conjunction with the fact that the length of sewers in the town is under 9000 yards, and the number of ventilators 30, almost 1 to every 200 yards, may be considered a good guarantee that sewer-gas is not present to any dangerous extent.

The cesspools now remaining are those in connexion with isolated houses standing in their own grounds, and far removed from access to the town sewers.

Water-supply. It is a mistake to say that 133 houses are not connected with the water-supply. My report says that 133 waterclosets are not connected with the supply of pipe-water to the town; but the houses themselves have a supply. Since the presentation of the before-mentioned report, twenty months since, the Water Company have enlarged their mains, and so supplied a constant pressure to the whole of the lower levels.

The pigs mentioned in the report were dealt with after the inspection, but before the report was presented.

The returns lately furnished as to the death-rate of the district. One death from zymotic disease in two thousand of a population does not indicate a very insanitary condition of the town. Nos. 1, 2, and 3 of your Commissioner's recommendations, the sanitary authority of this place are now engaged in carrying out; but No. 4 they have not thought yet requisite.

In conclusion, I may mention that the death-rate for the past year is at the rate of 14 per 1000.

I remain, Sir, yours truly,

E. RUSSELL-WOODFORD, M.D.,
Ventnor, March, 1877. Medical Officer of Health for Ventnor.

HURRY AND "HIGH PRESSURE."

IT is the pace that kills; and of all forms of "overwork," that which consists in an excessive burst of effort, straining to the strength, and worrying to the will. Hurry of all kinds—for example, that so often needed to catch a train, the effort required to complete a task of head work within a period of time too short for its accomplishment by moderate energy—is injurious. Few suffer from overwork in the aggregate; it is too much work in too little time that causes the break-down in nineteen cases out of twenty, when collapse occurs. Most sufferers bring the evil on themselves by driving off the day's work until the space allotted for its performance is past, or much reduced. *Method* in work is the great need of the day. If some portion of each division of time were devoted to the apportioning of hours and energy, there would be less confusion, far less "hurry," and the need of working at high pressure would be greatly reduced, if not wholly obviated. A great deal has been written and said of late, to exceedingly little practical purpose, on the subject of "overwork." We doubt whether what is included under this description might not generally be more appropriately defined as work done in a hurry, because the time legitimately appropriated to its accomplishment has been wasted or misapplied. Hurry to catch a train generally implies starting too late. High pressure is either the consequence of a like error at the outset of a task, or the penalty of attempting to compensate by intense effort for inadequate opportunity. If brain is bartered for business in this fashion, the goose is killed for the sake of the golden eggs, and greed works its own discomfiture.

WHY?

To the Editor of THE LANCET.

SIR,—Allow me to ask you to give to your thousands of readers such answers as you think fit to any or all of the following questions.

1. Why does the physician and surgeon of the present day accept as his *honorarium* the same amount as was accepted by his grandfather fifty years ago, while his butcher, his baker, his tailor, and others have raised their charges *x y z* per cent., and when the amounts he has to pay for horses, taxes, and house-rent may have doubled?

2. Why does M.D. Lond., who is a general practitioner, take five shillings or less for advice and medicine, while his neighbour, M.D. Lond, who is assistant-physician to some hospital, is compelled, by the unwritten law of the profession, to demand a guinea for a prescription?

3. Why does the general practitioner, if referred to by one of his own patients who may wish to insure his life, insist upon receiving a guinea for his report, when he will prescribe for and give physic to the same patient for five shillings?

4. Why does an accoucheur raise his charges from one guinea to ten, twenty, fifty, or more as his practice increases, and he is "in demand," while the physician who has also increased his reputation and "in demand" still takes his single guinea for the services he renders?

5. Why does the surgeon gain from ten to a hundred guineas for performing an operation that may occupy ten minutes, while the physician receives one or two guineas for settling some difficult problem of life? Why, for example, does A. B., who crushes a stone or operates for cataract, receive a large fee, while Dr. C. D., who decides after long consultation that Major X. shall "sell out," or that Mr. Y. shall spend a "winter on the Nile," or that the Reverend Z. shall retire from work or be placed in a lunatic asylum, receive a small fee? The skill, the experience, the time, the importance of the issues, are as great in the one set of cases as in the other. Why is there such divergence in the reward?

6. Why does a physician or surgeon, who has arranged many consultations for the day, in or about his house, knowing little or nothing of the needs of the cases he has engaged to see, disappoint all those who may be therein concerned because he receives a telegram to go to some place two hundred miles away to see some one, of the urgency of whose needs he knows nothing more than that which is represented by the summons?

7. Why does Sir A. B. C., of the bar, after thirty years of practice, raise the fee for his consideration of a "brief" to ten or a hundred guineas, while Sir X. Y. Z., doctor of medicine, of thirty years' experience, still takes the *honorarium* of one or two guineas, the same as that which he was glad to receive at the time that he began his career?

8. Why should not the "heads of the profession" demand ten or twenty guineas for their advice, instead of taking precisely what the youngest members of their profession are only too anxious to obtain?

9. Why should not such fees be paid?

10. Why should not the profession practically answer these questions?

Your obedient servant,
March, 1877. WHY.

LYMPHOSARCOMA SIMULATING ANEURISM.

AN interesting case of this disease was last week brought before the Medical Society of the College of Physicians, Ireland, by Dr. Finny, in which the symptoms simulated aneurism so closely that the diagnosis at one time was uncertain. There was a tumour close to the sternum, distensile impulse, dyspnœa, dysphagia, hæmoptysis, harsh cough, &c. A peculiarity in the case was that both sounds of the heart were doubled. After death the phrenic and pneumogastric nerves were found engaged in the tumour, and a portion of the sternum absorbed from pressure.

Mr. Barwell.—In due time.

TRACHEOTOMY TUBES.

To the Editor of THE LANCET.

SIR,—Permit me to correct an error which appeared in your columns of March 3rd respecting the improved expanding tracheotomy tubes. The writer says: "The chief defect of these tubes still remains, and will I think defy remedy. It is simply that the same length of tube has to do for a child as for an adult." This, I venture to say, is incorrect, as the tubes are now made so that the outer tube or pilot is short enough for a child, and sufficiently long to reach the trachea in an adult, the inner cannulas making up the deficiency, as they vary in length. Thus it will be found to answer the purpose in all ages.

Yours respectfully,
Palace-road, S.E., March 6th, 1877. F. WALTERS AND CO.

VICTIMS OF FASHION.

THE "season" brings round its grievance about low dresses. What is wanted would seem to be a more elastic rule of the *mode*, enabling ladies to adopt on State occasions, as in private life, the costume which best befits their personal peculiarities of figure and health. In truth, "dress" should be a matter of style rather than pattern. It is hopeless to expect any relaxation of the rule in favour of men, who do not perhaps appear to the best advantage in tail coats; but that is no reason why women who are perhaps too scraggy or weakly to appear in dresses cut low on the shoulder should be compelled to assume an unsuitable or unsafe garb with no better reason than "it is the fashion of the Court." Let the Court reform its fashion. We cannot compel the hospitality which would make Courts and drawing-rooms pleasant reunions; but it may at least be asked that they shall not any longer be made occasions of discomfort and even causes of sickness and death. The English climate is unsuitable to any exactions of specialty in the matter of costume. The matter is urgent from a medical point of view, and we venture to hope an order will be issued, rendering the alternative of high or low dresses a matter of choice, in which case it will soon be possible to perceive in which direction the popular feeling really tends.

P. P.—"Five shillings for an ordinary visit and medicine and three guineas for confinement" do not certainly constitute "excessive" charges. The circumstances under which any person "in good business" could refuse to pay fees on so moderate a scale are not obvious. Surely there must be some misapprehension. Although it is not customary to give particulars in a medical account for professional services rendered, our correspondent might save himself needless trouble and annoyance by doing so.

Ignotus.—Brown-Séquard's Archives de Physiologie, No. 4; Juillet—Août, 1876.

Selim.—The half fee would belong to the assistant.

THE INDIAN MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—For some time past the officers of the Indian Medical Service in the three Presidencies have been in an unsettled state, in consequence of the circulation of vague rumours as to the probability, if not the certainty, of their almost immediate amalgamation with Her Majesty's Army Medical Department, and it may perhaps be unnecessary to add that any such arrangement would be generally deprecated by them, as being one which it is expected would most seriously affect their interests both in the present and future.

That strenuous efforts have been made in this direction (and are still being employed by the Army Medical Department, and by others who consider they will be benefited by the change) is well known, and that some alterations in the constitution of the medical services will ultimately be brought about by Horse Guards and Whitehall-place influence, is a fact which the officers of the Indian Medical Service will have to accept, no matter how unpleasantly it may be forced upon them. It must, nevertheless, be remembered that the interests of individuals must be in a great measure disregarded in order to accomplish a measure which it is generally considered will benefit the Government materially, as well as increase the efficiency of the public service.

As to the manner in which report has it that this amalgamation is to be effected, I can only tell you that, so far as is known in India up to the present time, it is a case of *quot homines tot sententiæ*, and therefore I shall not trouble you further on this point, particularly as each one gives his opinion just as suits his individual interests.

It has been a matter of fact that for many years past the Indian Medical Service has obtained the *élite* of the young medical men who have competed for appointments in the public service; but still there is this anomaly regarding them—viz., that after a few years' residence in India the majority are considered to deteriorate professionally, and not to be able to maintain the well-established reputation of the medical officers of the late East India Company's service.

In THE LANCET of June 1st, 1872, you were good enough to publish a letter from me (which I believe at the time attracted the attention of the authorities both at the India Office and in India), in which I asked the question whether "native medical men would not be better adapted to hold the charge of native regiments than Europeans, who have spent (or rather soon after arrival in India find they have *misspent*) a large sum in learning their profession so as to meet the requirements of European practice"? and although a comparative junior in the service when I wrote that letter, I can now, after five years' additional experience of India and its requirements, again *most emphatically* state that it is an utter waste of public money and a prostitution of professional ability to employ any well educated English medical man in the treatment of the sick of a native regiment *as his only duty*. I repeat that the medical charge of a native regiment is a sinecure as relates to the duties of the medical officer, and affords but the slightest opportunities for keeping up (much less increasing) professional knowledge in any way. If kept in such a position for any length of time, a medical officer must of necessity deteriorate rapidly as a physician and surgeon.

I have prominently brought to notice what I consider to be the principal defects of the present system, in the hope that the authorities may take some action regarding them, and become impressed with the necessity there is for improving the condition of the Indian Medical Service. With this view I give a skeleton sketch of a reorganisation which may be considered as one that would benefit Government as well as increase the efficiency of the Indian Army Medical Department.

1. The Indian Medical Service, as it exists at present, should be at once divided into two branches—one, the Indian Army Medical Department; the other, a civil medical service under local governments. These two services, the military and civil, should be kept totally distinct as regards promotion, pay, &c.

2. Instead of having a competitive examination for the Indian Medical Service solely, there should be but one, held half-yearly, for the selection of candidates for the Army Medical Department, the Royal Navy, and the Indian Army Medical Department. The successful candidates in order of their seniority should be permitted to elect for the Indian Army Medical Department up to the required number of vacancies. Special rules as to pay, promotion, and pension should be published for the Indian Army Medical Department.

3. At once call on the present members of the Indian Medical Service to elect for the military or civil department; such election once made to prove binding on the medical officers concerned.

4. As a commencement, form the Indian Army Medical Department from the best men of the two services now serving in India, but to be recruited hereafter in the manner set forth in paragraph 2.

5. The Indian Army Medical Department would be for service in India only, and have special rules as to pay, promotion, pension, &c.; would have the charge of all Her Majesty's British regiments from the date of their disembarkation at any port in India to the date of their embarkation for England, and would also perform the medical duties connected with the native army, but only in addition to their duties with Her Majesty's British regiments.

6. The strength of the Indian Army Medical Department should be calculated on a liberal scale, so as to provide for every possible contingency, and should allow of each surgeon, after his arrival in India, being attached to a European regiment for a period of at least eighteen months, and to a native regiment for a further period of six months, in order to become acquainted with the details of his various sanitary and hospital duties, as well as to come under the wholesome influence of military discipline, and to pass the Lower Standard Examination. During this period of probation the young surgeon should not if possible be detached on any duty away from his regiment. The medical establishment for a European regiment should consist of a surgeon-major and three surgeons (who have gone through the two years' probation) for permanent duty. One of the latter should assist in affording medical aid to the native regiments at the same station, with an extra allowance for doing so. At those stations in which native regiments only are located, a surgeon (who has passed through his two years of probation) should be placed in medical charge with extra allowances, but should not be permitted to retain the charge for a longer period than two years, on the expiration of which he should be relieved by another qualified medical officer, who would hold the charge for a similar period. All batteries of artillery, detachments, and depôts should be held by surgeons specially selected for such an independent charge on account of their professional qualifications.

7. I need say nothing about the administrative staff of the Indian Army Medical Department, beyond that the best men should be selected for such important duties, and that an *immense* saving would be effected by abolishing the double administrative staff, and in not having medical officers specially posted to native regiments, as is the present custom. All sanitary matters affecting the army should be arranged by the army medical administration, and not, as at present, by the Sanitary Commissioner and his provincial subordinates.

I do not allude to the civil medical department for India, as its details could be easily arranged. Officers who entered the Indian Medical Service prior to March, 1885, and who wish to remain under their present condition of service, should be permitted to do so, or else got rid of on equitable terms; but for the future Indian Army Medical Department it might be advisable to have special rates of pay and pension of sufficient attraction to intending candidates for the public service, and this could be easily done without any extra cost by means of the immense savings under the above heads.

Now that the unification system of the Army Medical Department has been completed, there would seem to be but little difficulty in reorganising an Indian Army Medical Department of which the Government and the country might well be proud, and which would consist of officers whose knowledge of the climate, diseases, and peculiarities of service in India would prove most valuable when placed in charge of Her Majesty's army.

Apologising for the length of this letter,

I am, Sir, yours truly,

February, 1877. PRIMUS IN INDIS.

PROBABLY UNIQUE.

IT is stated that amongst the candidates who passed with honours the recent Cambridge Local Examination was a lad aged sixteen, named Farrar, who is completely deaf and dumb. Making every allowance for extraordinary intelligence on the part of the youth, the case cannot but be regarded as a flattering testimony to the value and efficiency of the method adopted by the Rev. T. Arnold, of Northampton, whose pupil Farrar had been.

Cynic is hard on "pets," *apropos* the straying of a dog on a recent occasion into a hospital ward, to the serious annoyance of a patient dying of hydrophobia. Pet dogs are well enough in their place; but we agree that out of their place they are a nuisance. Meanwhile it is impossible not to feel that the love of animals, "brutes" though they be, is humanising.

E. W. J.—We do not know of a good separate treatise on the subject. Try Reynolds's System of Medicine.

Mr. A. W. Moore is thanked.

IMMUNITY FROM SMALL-POX SECURED BY REVACCINATION.

To the Editor of THE LANCET.

SIR,—Having read in your issue of Nov. 25th, 1876, a most interesting account by Dr. Orchard on the above subject, I should feel much obliged if he would inform me how often he considers revaccination necessary and at what ages. The public have an idea that they should be vaccinated every seven years, and directly small-pox is heard of in the neighbourhood, at once rush off to the doctor for the operation.

I am, Sir, yours &c.,

Punjab, Jan. 24th, 1877. SURGEON-MAJOR.

LEADENHALL MARKET.

COMPLAINTS have recently been made against the Poulterers' Company on the ground that this Corporation has neglected some of the duties imposed by its Charter; and certainly there is one phase of the question which demands immediate reform, though we are not disposed to discuss by what authority this improvement should be attempted. Leadenhall Market is a disgrace to the metropolis, and it is an anomaly that this centre of trade should have been so long neglected. Billingsgate and Smithfield Markets will have cost a million sterling before they are completed; but nothing has been done to improve the sanitary condition of Leadenhall. This is due perhaps to the fact that the market has no distinct representative to defend its interests. Its tradesmen cannot influence elections; for a portion of the market stands in Lime-street, another in Corahill, another in Langbourn, and the fourth in Bishopsgate wards, so that the market questions are drowned in the conflicting clamour of the numerous other problems agitating these four wards. In the meanwhile, Leadenhall retains its obnoxious, and at times even dangerous, characteristics. The low and overcrowded building still harbours live stock, as well as dead and decaying poultry. The latter, it is true, are under the supervision of inspectors, who visit the place twice a day, seize bad poultry, and see to the removal of offal, &c.; but they cannot prevent the throng of purchasers who crowd in the passages, and the dirt and smell which result from the live stock. This consists of poultry, pigeons, peacocks, geese, swans, cats, dogs, fancy animals of every description, crushed together in cages, standing one over the other, and hanging down from the ceiling. Every available inch of space is occupied, and when the sun shines on this indescribable scene, the dense atmosphere becomes absolutely unbearable, and recourse to a scented handkerchief indispensable to the personal comfort of the visitor. As the voice of the market tradesmen has failed to make itself heard in the Common Council, we might suggest that the Poulterers' Company would only be acting in harmony with the spirit of their Association, the text of their Charter, and the antecedents of the City guilds if they bestirred themselves to improve the sanitary condition of this central and important market.

"A CHARMED CIRCLE."

To the Editor of THE LANCET.

SIR,—I trust, as a constant country subscriber, you will give insertion to the following strictures, which are prompted by professional *bona fides*.

Metropolitan physicians and surgeons or their clerks appear to write, in giving hospital reports, as though they were writing in a charmed circle, as if nobody *outside* should enjoy the intended benefit of their extended experience. Now, Sir, when men write through you, whose print is almost universal, I as an humble country practitioner enjoying the privilege of reading after you weekly, with great expectations, cannot avoid complaining of the "taken-for-granted" style in which hospital physicians and surgeons report their cases.

Your report last week of a clinical lecture by Dr. McCall Anderson, embracing the nature and treatment of an intensely interesting class of diseases, to us in the outer world must be read with much attention and interest were not such alloyed with the administration of unknown drugs or nostrums, such as Messrs. Savory and Moore's "pancreatic emulsion." What on earth is this wonderful emulsion? What is its composition and medical properties? I venture to think few outside the *charmed circle* among the thousands of your readers know anything of it; it is not to be found in the British Pharmacopœia.

I venture to ask from all physicians and surgeons who do us the favour of publishing their hospital cases, to give us the benefit of their *full* treatment, not contenting themselves with a curt statement of the pulse and temperature, without showing the medicines, their effects and results.

I am, Sir, yours truly,

Leigh, Manchester, March 6th, 1877. CHAS. ANDERTON.

EXCISION OF THE KNEE.

IN reference to a case of this operation reported in our "Mirror" last week, page 347, Mr. Walter Iliffe writes to explain that the case was a private one operated upon by him in Warwickshire, and not, as would appear from the report, that of a patient received into the Kendal Hospital.

Mr. Balfour.—The evidence of sensations experienced by the convict Treadaway on the morning before the murder could, of course, only be narrated by himself afterwards, and must be prejudiced. There was, in fact, no *proof* that he felt as he stated. This will be obvious. The statement that we made was based on facts, and may be taken as trustworthy. The distinction we drew between nervous and mental disease is clearly marked. We repeat there was no tittle of evidence of mental derangement, but abundant evidence of epileptic disease. The circumstance that the convict's description of his sensations as detailed by medical witnesses would have furnished material for a certificate of insanity is nothing to the point. The period at which the statement was made—that is, after the crime was committed, and when there was every motive to make out a case of insanity—puts it out of Court.

N.—It is impossible to say what methods of ascertaining the physical condition of his patient a physician may select. Whether "sounding," feeling the "pulse," &c., may or may not be necessary in a particular case, the medical man consulted *only* can determine. We offer no opinion.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—With reference to the letter of "M.D.," whose scheme of promotion is, to say the least, novel and ingenious, though somewhat impracticable, I beg to apologise for explaining so simple a matter: that when a vacancy occurs there must necessarily be promotion, and in each case a step given to everyone below where the vacancy takes place.—Yours &c.,

March 6th, 1877. FAIR PLAY.

CREMATION.

THE Cremation Society at Milan has at length obtained from the Minister of the Interior permission to practise two crematory experiments on human bodies—one by the Polli-Clericetti process; the other by the Terussi and Betti process. The Minister, for the purpose of arriving at a scientific estimate of the Polli-Clericetti process, has nominated a Committee, composed of some of the leading physicians of North Italy, to watch its *modus operandi*. His EXCELLENCY has further announced that henceforth, to obtain permission to practise cremation on a person deceased, the Cremation Society and the relatives shall jointly make a request *ad hoc* to the Prefect of the province, and that he, having taken the opinion of the Sanitary Council, may then grant it. This regulation facilitates materially the practice of cremation. Formerly the consent of the Minister had to be obtained, but after such delays as made the embalming of the corpse necessary. Now in less than twelve hours the request to subject a corpse to cremation may be preferred, granted, and carried into execution.

An Admirer of the Sex as it ought to be.—Our correspondent's letter is amusing, and to the point. We feel sure he will agree with us, however, that its publication is unnecessary.

Dr. R. H. Bakewell.—Revaccination is undoubtedly a protection against small-pox. It does not infallibly avert an attack; but in most instances it prevents, and in all mitigates the severity of, the malady.

ERECT VISION.

To the Editor of THE LANCET.

SIR,—I venture to suggest that the paradoxical phenomenon of "inverted images visible erect" has much light shed upon it by the reflection that the muscular mechanism of the eyeball has an inverted action in relation to the nervous retina. Thus the contraction of the levator oculi tends to *depress* the lower margin of the retina whilst it is in the act of receiving the luminous images of elevated objects; in the sense of touch, on the contrary, the contraction of levator muscles of the hands tends to *elevate* its sentient points whilst in the act of receiving tactile impressions from elevated objects. This discrepancy in the motorial functions of the visual and tactile senses results from the centres of motion of the eyeballs being intermediate between the insertions of the recti muscles and the retinal expansions.

It has been extensively taught, and I am not aware of any change in the dogma, that retinal minima visibilia determine lines of visible direction. This appears to me to be placing the cart before the horse. If it be assumed that voluntary muscular contractions (visual or tactile) occurring in relation to appreciated essences are the excitants of directive perceptions, it will be apparent from the above consideration of the muscular mechanism of the eyeballs that the sensorial functions of the ocular muscles give rise to inverted directive perceptions so as to correct the physical necessity of inverted retinal images. Thus the superior rectus causes the cornea to face an upper object; this gives rise to a perceptive idea of "above" whilst it depresses the retina. So, likewise, objects are perceived towards the right when their images impinge on the left borders of the retinæ, because such impingement is due to the contraction of muscles which move the eyeballs or head (not the retinæ) in this direction, whereby sensorial ideas of "to the right" are generated.—Yours very truly,

T. OUGHTON, Surgeon-Major, A.M.D.

Pembroke Dock, March 10th, 1877.

THE ROYAL COLLEGE OF SURGEONS.

THE term for which Mr. Henry Spencer Smith was elected a member of the Court of Examiners having expired, it will be seen by a notice which appears elsewhere that a special meeting of the Council will be held on the 27th instant, when Fellows desirous of being considered candidates for the office are invited to send in their names.

Trafalgar.—Attendance on a case of midwifery is generally understood to include visits for such period as the attendant deems necessary. It is impossible to lay down any rule as regards the amount of attendance required. The circumstances must be very peculiar under which the fee is refused on the ground of neglect to visit daily for "nine days." The medical man in charge of the case is the judge of the question how often he need see his patient, the period of convalescence being, of course, watched.

A CAUTION.

WE are requested to warn the profession against a petition which is being circulated for signature. Its professed object is to induce Parliament to make the communication of contagious diseases a misdemeanour. This plausible purpose has induced a few gentlemen to sign the document without apparently recognising the scope of the proposal. The latter is as wide and vague as can well be imagined. As to the spread of venereal complaints it would be wholly inoperative, as the *wilful* transmission of these could not be proved.

POCKET CLINICAL URINE CASES.

To the Editor of THE LANCET.

SIR,—"There is nothing new under the sun." Dr. Alexander's pocket clinical urine case, mentioned by you last week, seems a pretty exact counterpart of one designed by me seven years ago, and made to this day by Krohne and Sesemann. The placing the nitric acid in capillary tubes was, I believe, an idea entirely my own, and I hold letters, expressing their opinion of its practical value, from Drs. Bence Jones, Basham, Owen Rees, Anstie, and Lionel Beale. It is also adverted to at p. 380, vol. ii., of the *Practitioner*, and by Dr. Basham in a letter in your columns, July 23rd, 1870. The latter also refers to the novel design and principle of the spirit-lamp, and to its success in, as you say of Dr. Alexander's, "obviating leakage."

I enclose you one of Krohne and Sesemann's fly-leaves, with a drawing of the smaller of the two cases which they manufacture.

Yours obediently,

Weston-super-Mare, March 13th, 1877. EDWARD MARTIN.

CLIMATOLOGY.

MR. G. J. SYMONS read a paper on the Climates of the various British Colonies at a meeting of the Royal Colonial Institute on Tuesday last. The result of Mr. Symons' inquiries tended to show that the hottest place in our colonies is Colombo, Ceylon, Madras and British Honduras ranking next in order of average temperature. The lowest temperature was that of Winnipeg, Manitoba, where, although nearer the equator than England, the cold is so intense as to frequently freeze mercury. In Central Australia, although the heat is very great, it is not so oppressive and inconvenient as a lower degree of damp heat. Mr. Symons highly extolled Australia and the Cape of Good Hope as a resort for English consumptives. To those about to proceed to tropical regions, we would say, live regularly and eschew alcohol, and (granting a fair average constitution) there is no reason why health should not be maintained unimpaired for many years.

M.R.C.S. Eng.—The commission fees of an agent advertising, at the request of a principal who seeks an assistant, should certainly be borne by the principal. An attempt to mulct both parties ought to be resisted.

Civil Engineer.—We have repeatedly insisted that a full supply of pure water must, sooner or later, be obtained by an extensive system of Artesian wells. The time has certainly come for public action in the matter.

Cornubiensis is thanked. There is no public institution where they could be obtained in hundreds. Several letters have appeared in our columns of late, making offers to supply practitioners gratis.

NEW FORM OF BI-AURAL STETHOSCOPE.

To the Editor of THE LANCET.

SIR,—With respect to the instrument your correspondent, Mr. Brown, speaks of, I beg to state that I have used it constantly since last October, and can fully endorse all he says with regard to its efficacy. I have found it vastly superior to the old single stethoscope, the most delicate bruits being easily distinguishable. It, however, cannot certainly be carried in the vest-pocket, unless the latter be made like a sportsman's game-pocket. The flexible india-rubber parts (corresponding with the stem) are tubular, and the chest- and ear-pieces are made of vulcanite, also hollow; in fact, it is very similar to Dr. Harvey Hilliard's instrument (minus the unnecessary metal head-spring), which has been made for some time by Messrs. Arnold, of Smithfield. The new one I obtained at Messrs. Maw and Son's, in Aldersgate-street, at the cost of 3s. 9d. The manager of the instrument department of the establishment tells me that he has known it for the last fifteen years, and that they have sold it as a copy of an American model for more than a year. This makes Mr. Brown's claim for invention rather a curious coincidence. An American practitioner tells me that the bi-aural has almost entirely superseded the simple stethoscope in that country.—Yours &c.,

Gerrard-street, W., March 3rd, 1877. G. A. HARDWICKE.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. R. Barwell, London; Dr. Lauder Brunton, London; Mr. C. Heath, London; Dr. Parker, Poona, India; Dr. Fothergill, London; Dr. Crowther, Hobart Town; Dr. Bakewell, Dunedin, New Zealand; Dr. Lloyd, London; Dr. Francis, Sutton; Mr. Ingpen, London; Mr. Watson, Bournemouth; Dr. Hunt, Port Jeaves, New York; Mr. Mason, Gosport; Mr. Wilkinson, Basham; Mr. Bouverie, London; Mr. R. Griffin, London; Messrs. Masten, Liverpool; Mr. Earp, Nottingham; Mr. Hillman, Lewes; Dr. Macleod, Glasgow; Mr. King, Birmingham; Dr. Chepmell, London; Mr. Capon, Dorchester; Mr. Walker, Boulogne; Mr. Harrison, Liverpool; Dr. Sandford, Hereford; Mr. Watteville, London; Mr. Hamilton, Liverpool; Dr. Lowe, Dawlish; Dr. Moore, Pimlico; Dr. O'Neill, Lincoln; Mr. North, York; Dr. Malins, Birmingham; Dr. Kebbell, Brighton; Dr. R. S. Smith, Bristol; Dr. Carpenter, London; Mr. Balfour, London; Mr. Kemp, London; Sergeant Fairbank, Aldershot; Dr. Tibbits, London; Mr. Walter; Mr. Nowell; Dr. Howley, St. John's, Newfoundland; Mr. E. Martin, Weston-super-Mare; Mr. Gawith; Dr. Murray; Mr. Symonds; Mr. Speal; Mr. Harvey; Dr. Edgar; Dr. Russell-Woodford, Ventnor; Mr. Iliffe; Dr. Battye; Dr. Heath; Mr. Wingate, Folkestone; Mr. Lee; Mr. Elwin, Dover; Mr. and Mrs. German Reed; Mr. Parsons; Dr. Winslow, Hammersmith; Dr. Wilson, Greenock; Dr. Saunders, Belfast; Dr. Jackson; Dr. Reilly; Mr. Daniel; Dr. Prideaux, Derby; Mr. Cooper; Mr. Chavin, Cheam; Mr. Bowman, Derby; Mr. Hampson, Redcar; Mr. Bamford, Carlisle; Mr. Crispe, High Beech; Mr. Evans, Penrith; Mr. H. J. James, Fordingbridge; Mr. Chater, Thorpe; Mr. Simons, Dursley; Mr. Rowell; Mr. Hudson, Birmingham; Mr. Mackenzie, Stirling; Mr. Hansford; P. P.; The Registrar-General of Births and Deaths; M.R.C.S. Eng.; Trafalgar; R. W. B.; M. R. V., Horncastle; M.D., Castle Donington; Lambda; Sentinel; F.R.C.S.; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Fox, Manchester; Mr. Kirby; Dr. Tylecote, Sandon; Dr. Eberle; Dr. Riordan, Cork; Mr. Stamford; Dr. Redwood, Rhymney; Mr. Clayton; Dr. Morris, Wortley; Mr. Jones, Cowes; Mr. Reynolds, Newmarket; Medicus, Edinburgh; Chemicus; Medicus, Barnstaple; Forceps; R. D. M.; Alpha; S.; Delta; Medicus, Haslingden; Cantab.; Scotus; A. Z., Stoke-upon-Trent; A. Y.; L., Homerton; B. T. C., Leeds; H. E., Northallerton; R., Liverpool; S. Y., Dublin; Medicus, Alford; M., Moulton; M. C. M.

Western Morning News, Newcastle Daily Chronicle, Sunday Times, Scotsman, Shield, Solicitors' Journal and Reporter, Land and Water, Examiner, Welshman, Spectator, Newcastle Daily Journal, Garden, Broad Arrow, Pharmaceutical Journal, Surrey Advertiser, Home Chronicler, Leeds Mercury, Colonies and India, Manchester Guardian, West End Gazette, Liverpool Mercury, Dumfries-shire and Galloway Herald, Philadelphia Evening Telegraph, Record, Analyst, Canada Lancet, Derby and Chesterfield Reporter, Hastings and St. Leonards Independent, Daily Post, and *Chester-le-Street Times* have been received.

Medical Diary for the ensuing Week.

Monday, March 19.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. W. H. Flower, "On the Comparative Anatomy of Man."
MEDICAL SOCIETY OF LONDON.—8½ P.M. Dr. J. Braxton Hicks, "On the Association of Eczema with Diabetes." — Dr. T. Lauder Brunton, "On Arsenic in the Treatment of Albuminuria."

Tuesday, March 20.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Garrod, "On the Human Form; its Structure in relation to its Contour."
PATHOLOGICAL SOCIETY OF LONDON.—8½ P.M. The following Specimens will be exhibited:—Cerebral Aneurism from Embolism; Aneurism of the Femoral and Popliteal Arteries from Embolism; on the Changes which occur in the Bloodvessels in Bright's Disease; Atrophy of one Kidney, great Hypertrophy of the Heart, and Atheroma of the Arteries. Microscopical Specimens will be on view at eight o'clock.

Wednesday, March 21.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. W. H. Flower, "On the Comparative Anatomy of Man."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Lumleian Lectures: Dr. George Johnson, "On the Muscular Arterioles, their Structure and Function in Health and in certain Morbid States."

Thursday, March 22.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 3 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Mr. Wm. Pole, "On the Theory of Music."

Friday, March 23.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. W. H. Flower, "On the Comparative Anatomy of Man."
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Lumleian Lectures: Dr. George Johnson, "On the Muscular Arterioles, their Structure and Function in Health and in certain Morbid States."
CLINICAL SOCIETY OF LONDON.—8½ P.M. Mr. Barwell: "Excision of a Lingual Epithelioma by Dr. Petrequin's Thermo-cautère." — Mr. C. Lucas: "Excision of Lower Half of Ulna for a Myeloid Tumour" (a living subject). — Mr. Geo. Brown: "Excision of Tongue for Cancer supervening on Ichthyosis of twelve years' standing."—Mr. Warrington Haward: "Recurrent Cancer of Tongue treated by Ligature of Lingual Artery."—Dr. Southey, "On a Case of Idiopathic Tetanus."
ROYAL INSTITUTION.—9 P.M. Prof. Gladstone: "Influence of Chemical Constitution upon Refraction of Light."

Saturday, March 24.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Morley, "On Effects of the French Revolution upon English Literature."

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